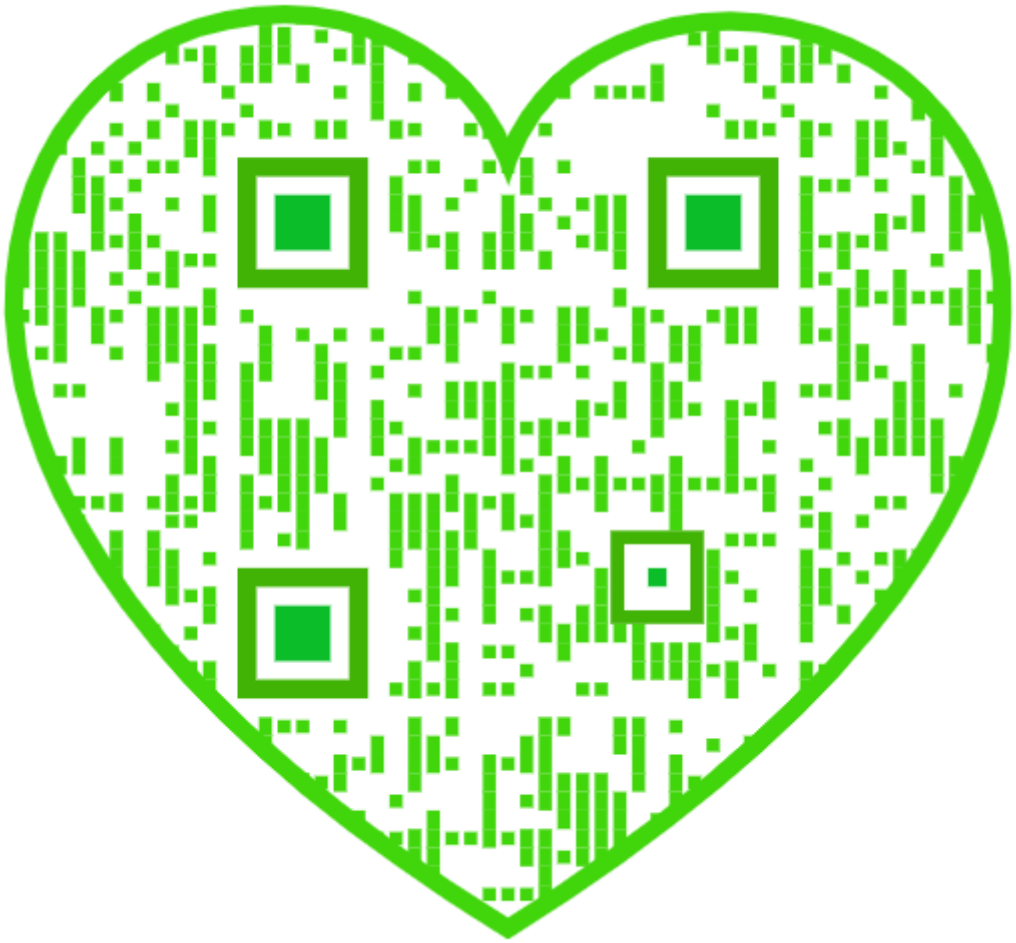
SF 951
.K75



VETERINARY SCIENCE ASSOCIATION
OF AMERICA

NOTES ON
DISEASES OF THE HORSE

CAUSE, SYMPTOMS AND TREATMENT

BY

CHARLES J. KORINEK, V. S.

Graduate of the Ontario Veterinary College, in affiliation with the University of Toronto, Canada. Hon. Member of the Ontario Veterinary Medical Society. Ex. State Veterinarian for Oregon. Ex. President of the Oregon State Veterinary Medical Board of Examiners. Author of "The Veterinarian". Principal of the Veterinary Science Association of America. Sixteen years of Practical Experience as a Veterinary Surgeon.

PUBLISHED BY THE
VETERINARY SCIENCE ASSOCIATION
OF AMERICA

SF951
.K75

COPYRIGHT 1917
by the
VETERINARY SCIENCE ASSOCIATION
OF AMERICA

$2.00

©CLA453713

JAN 22 1917

PREFACE

This treatise on the diseases of horses has been written with the primary purpose of placing in the hands of the Student and the Veterinary Profession, a book of practical worth; hence, all unnecessary padding is omitted, so that the reader may quickly grasp the knowledge of the subject or disease for which he may be seeking.

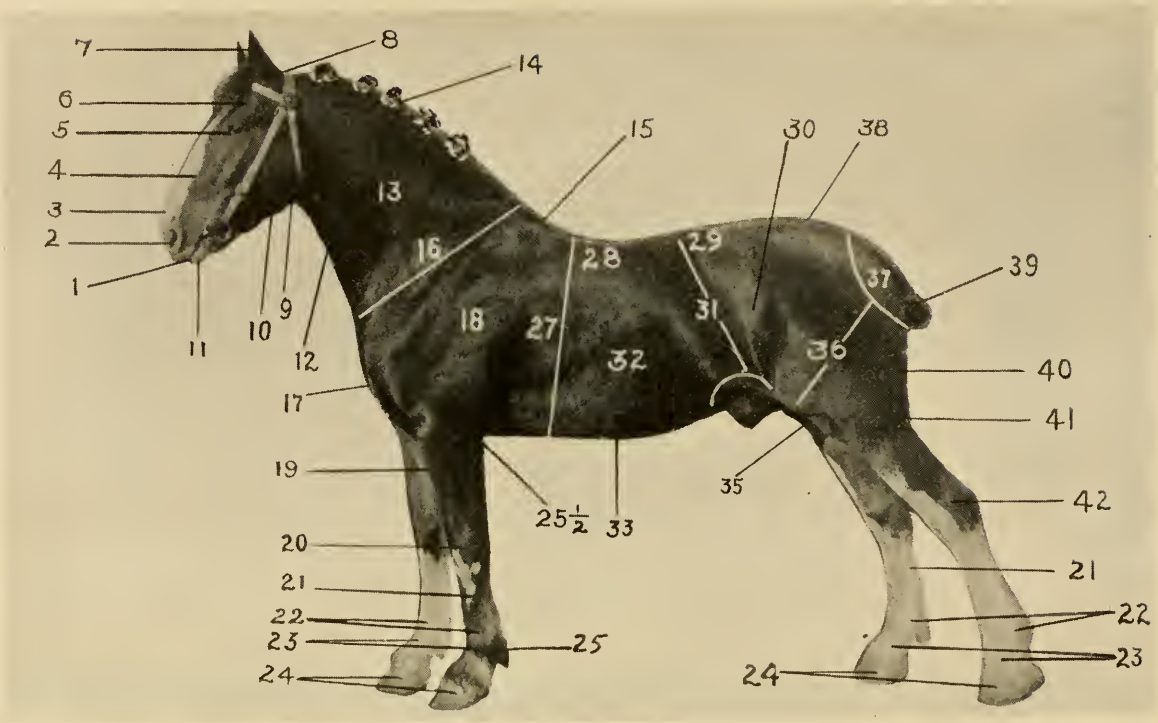
The treatment suggested in each case is one I have used and found efficient in my many years of practice.

If my readers will study and follow the directions carefully, they will save themselves, as well as their neighbors, much unnecessary loss. My confidence in this accomplishment is my reward for my labor in behalf of our faithful servant the Horse.

Charles J. Korinek, V. S.

DISEASES OF THE HORSE

CAUSE, SYMPTOMS AND TREATMENT



LOCATION OF PARTS OF THE HORSE.

Location of Parts of the Horse

1. Mouth.
2. Nostrils.
3. Nose.
4. Face.
5. Eye.
6. Forehead.
7. Ears.
8. Poll.
9. Throat lach.
10. Jaw.
11. Chin.
12. Windpipe.
13. Neck.
14. Crest.
15. Withers.
16. Shoulder bed.
17. Chest.
18. Shoulders.
19. Forearm.
20. Knees.
21. Cannons.
22. Fetlock.
23. Pasterns.
24. Feet.
25. Feather.
25½. Elbow.
26. Flank.
27. Heart girth.
28. Back.
29. Loin.
30. Hip bone.
31. Coupling.
32. Ribs.
33. Belly.
34. Rear flank.
35. Stifle.
36. Thigh.
37. Buttock.
38. Croup.
39. Tail.
40. Quarters.
41. Lower thigh.
42. Hocks.

THE USE OF THE CLINICAL THERMOMETER

This instrument is employed for taking the internal temperature of the body, which is most conveniently done by placing the instrument for about three minutes in the animal's rectum. Owing to the almost general adoption of this method, the expression "internal temperature" is used as a rule to signify "rectal temperature"; although the respective temperatures of different parts of the body vary to a slight extent. The practice of placing the thermometer in the mouth, as is the custom in human medicine, is not suitable to animals, owing to the danger of the patient breaking the glass instrument with the teeth.

The indications afforded by the clinical thermometer are valuable guides as to the state of the animal's health at the time, or what it will shortly be. Thus, in a horse at rest under ordinary conditions, if there be a rise of three or four degrees without the animal evincing any other sign of illness, we may be assured that disease in some form will, after a day or two, manifest itself in him. During illness, a temperature of, say, 106° F. or more points to a condition of great danger.

The clinical thermometer is especially useful in indicating the state of an animal during infective diseases and diseases of the organs of breathing. A fall in temperature, when it has been abnormally high, will generally point to a favorable termination of the disease; although in some cases it is the precursor of rapidly approaching death.

TEMPERATURE DURING HEALTH.

As a rule, there is a daily variation in the internal temperature of a healthy animal of about 1° F.; the maximum being attained at about 6 o'clock in the evening. In the adult animal, the temperature is about 1° F. higher than in a very young or very old animal. It is about 1° F. less in the female than in the male, except when she is "in season," during which time it is about 2° F. higher than normal. The temperature of well-bred animals is higher than that of common animals. A rise of 4° or 5° F., compatible with health, may be observed in animals during violent exercise or work in hot weather. The temperature of well-fed animals is higher than that of poorly-fed ones. During digestion, it rises about 1° F., and falls about the same amount during sleep. Exposure to the rays of a hot sun for a few hours may cause a rise of as much as 3° F., and the effects of cold and rain may equally lower it.

Normal Temperature of the Horse.—

From 2 to 5 years old the temperature is 100.6° F.

From 5 to 10 years old the temperature is 100.4° F.

From 10 to 15 years old the temperature is 100° F.

From 15 to 20 years old the temperature is 98.4° to 100.2° F.

New born foals' temperature will run from 102° to 104° F.

Temperature of Cattle.—Normal temperature is from 101.8° to 102° F. Compared with the horse, the daily variations are small.

Temperature of Sheep and Goats.—In these animals the greatest variation in temperature occurs, viz.: 100.9° to 105.8° F. In the majority of cases the temper-

ature probably will be between 103.6° and 104.4° F. The cause of this variation is unknown.

Temperature of Swine.—The average temperature is 103.3° F., varying from 100.9° to 105.4° F.

Temperature of the Dog.—The dog is subject to important variations depending on the external temperature; it varies from 99.5° to 101.7° F., although in some localities it is as high as 100.9° to 101.3° F. Feeding will increase the temperature, and it is also higher towards evening.

PULSE.

Pulse Feeling.—Pulse are usually taken at the lower jaw; its character there being better marked than at other convenient situations. The artery may be felt underneath the lower jaw, just in front of the fleshy part of the cheek. On passing the fingers of the hand over the spot, two vessels can be distinguished lying closely together; one, the duct which conveys saliva from the parotid gland into the mouth; the other, the artery which supplies the face with blood. The middle finger should be applied so as to gently press the artery against the inner surface of the bone. The ball of the thumb should not be placed on the outside of the jaw, lest the operator might mistake the pulsation of the artery of his thumb for that of the patient's artery.

Very frequently the indication of the artery of the fore-arm is the one adopted. This vessel is on the inner side of the fore-arm, and may be felt by inserting the hand, from the front, between the breast and fore-arm, and feeling for the slightly prominent head of the bone just below the elbow joint.

The pulse can be felt at other parts of the body, but those mentioned are more practical.

Pulse.—The pulse in the horse, as in other animals, is of great importance; it tells the number and the

force of the heart beats. When taking pulse endeavor to keep the animal as quiet as possible, for if you excite him, you will find the pulse increased several beats, and after standing some time it will again fall. Pulse varies in different animals; slower in heavier horses, quicker in highly nervous animals. It may vary five or ten beats per minute, and the animal still be in perfect health. There are various kinds of pulsations, as the result of certain diseases, the quick, slow, large, hard, soft, frequent and infrequent. The strong, full pulse may be present, and consistent with good health; exercise will change the pulse to a considerable extent. But if the animal is suffering from disease, and then the pulse is of a wiry character, it is characteristic of the sthenic type of inflammation. Suppose an animal has been standing in the stable, and is attacked with lymphangitis, the pulse is full, bounding, wiry, characteristic of inflammation of the bowels, punctures of the feet, inflammation of the joints, etc. The weak, small pulse is indicative of debility, showing inflammation of an esthetic type. It may occur in influenza and catarrh. The oppressed pulse is characteristic of congestion and inflammation of the lungs; you would think the heart had great difficulty in propelling the blood forward. The throbbing pulse is characteristic of inflammation in certain parts. In laminitis there is, perhaps, the best example of the throbbing pulse, beating quickly, with a peculiar throbbing sensation, especially in any inflammatory action in the vascular structures of the feet, making the circulation difficult. A slow pulse is characteristic of cerebral disease, but if only twenty-eight or thirty you may say at once it is cerebral disease; if it is accompanied by a comatose condition, then it is indicative of this disease. The intermitting pulse is found where the animal has suffered from some debilitating disease, as influenza, distemper, catarrh, etc. Although it must in some cases be looked upon with suspicion, it is not generally very alarming, but if there is a change for the worse, and this pulse, it is unfavorable. The fluttering and almost imperceptible

pulse indicates great change in the system, as in the latter stages of enteritis (inflammation of the bowels), pleurisy, pneumonia, etc., especially in enteritis; if a case where the pulse is forty, fifty or sixty per minute, and changes, and runs up to eighty or a hundred and becomes indistinct, it is indicative of approaching dissolution. These are the varieties of pulse, and due to the manner in which disease attacks the various organs. You may meet with a case at one hundred and twenty-five where it may recover, but higher than this will no doubt prove fatal. The pulse in the young is much more rapid than in the adult animal; that of a foal at birth beats one hundred to one hundred and two per minute, while that of a calf will go to one hundred and thirty per minute. In old age the pulsation becomes reduced and the arteries much weaker. The pulse rate in large animals is less than in smaller twenty-five to twenty-eight beats per minute. The more rapid the pulse, the greater the quantity of blood in circulation.

THE NORMAL PULSE THROBS PER MINUTE OF DOMESTIC ANIMALS—

	Per Minute.
The horse	36 to 42
Cattle	45 to 50
Sheep and goats	70 to 80
The dog	70 to 80
Swine	90 to 100

By taking the pulse we can form some idea of the character of the disease.

ABORTION IN MARES.

Cause.—Quality and quantity of food, poorly lighted, ventilated or drained stables, mare falling or slipping, sprains, kicks, hard, fast work or eating poisonous vegetation.

Symptoms.—Mare will show signs of colic, the outer portion of the womb will be swollen, and if the colicky symptoms continue there will be a watery discharge and the membranes covering the fœtus or foal will become noticeable. The animal strains when lying down or getting up.

Treatment.—Place the animal in comfortable quarters and blanket if chilly. When colicky pains are present treat the same as for spasmodic colic. To stop the straining and labor pains, give Tincture Opii one ounce, placing in gelatin capsule and give with capsule gun every two hours. One to two doses, however, are generally sufficient as the mare will either abort or the dangerous period will have passed. Keep the animal quiet and feed good nutritious food and pure water with chill taken off in small quantities but often. Disinfect the mare's quarters thoroughly. A good general tonic should be used in this condition, one that will strengthen and assist nature to throw off impurities from the blood, such as Sodium Hyposulphite, eight ounces; Potassi Iodide, one ounce. Make into eight powders and give one powder two or three times a day in drinking water.

ABSCESS.

Cause.—Bruises and injuries. Abscesses are also seen in complications with various diseases, perhaps the most common being distemper, laryngitis, etc.

SYMPTOMS.—Symptoms will vary, of course, according to the development of the disease. It may not be noticed at first, but upon careful examination small tortuous lines will be observed running from the point of irritation. In many cases a swelling is noticed which is hot, painful and throbbing and enlarges rapidly. In two or three days the soreness and heat gradually subside, but the abscess continues to grow. The hair falls from the affected parts and in a short time the abscess discharges, and the cavity gradually fills up and heals by granulation.

TREATMENT.—In all cases hasten the ripening process as much as possible by applying hot water packs or hot bran, flaxseed or vegetable poultices. It is com- or hot bran, flaxseed or vegetable poultices. It will usually be found a safe plan to encourage the full ripening of an abscess and allow it to open of its own accord, as it will heal much better and quicker and you take no chances of infection with an instrument. When opened do not squeeze the abscess to any extent, but press gently with clean hands or cloth, to remove the clot, and after this simply keep open by washing the abscess with a three per cent Carbolic Acid solution or Bichloride of Mercury, one part to one thousand parts of water. When an animal has abscesses it is well to give the following blood purifiers or internal antiseptics: Hyposulphite of Soda, eight ounces; Potassi Iodide, one ounce. Mix well and make into eight powders and give one powder twice daily in drinking water, or place in gelatin capsule and administer with capsule gun. This prescription will prevent the absorption of impurities from the abscess into the blood.

ANEMIA.

CAUSE.—Insufficient quality and quantity of food, insanitary surroundings, overwork, lack of exercise, drains on the system from acute or chronic diseases,

worms; and can also be brought about by excessive heat, cold or pressure and lessening of the calibre of the arteries, poisons in the blood, suppurating wounds, repeated purging or bleedings.

Symptoms.—The visible mucous membranes of the nose, eyes and mouth are pale and sometimes have a yellow appearance. There is weakness, temperature of the body is lower than normal; pulse weak, legs cold to the feet, cold sweats are often present, breathing is quickened, especially in its last stages, animals tire easily, appetite and digestion become poor, swelling of the legs and the under surface of the abdomen, sheath and udder; the skin becomes rough and dry.

Treatment.—Remove the cause if possible in its first stages, or when first noticed. Give a physic of Calomel, two scruples; Aloin, two drams; Pulv. Gentian, two drams; Ginger, two drams. Place in gelatin capsule and give at one dose with capsule gun. Also, administer the following: Arsenious Acid, one dram; Ferri Sulphate, three ounces; Pulv. Gentian, three ounces; Pulv. Fenugreek Seed, three ounces, and Pulv. Anise Seed, three ounces. Mix well and make into twenty powders. Give one powder three times a day in feed, or place in gelatin capsule and give with capsule gun. Endeavor to build up the condition of the animal by the proper quantity and quality of food. Give pure water to drink, also provide sanitary conditions, as pure air, sunlight if possible. Turn out to grass when the weather is favorable. This treatment should be continued until the animal shows sign of improvement. However, the administration of physics should be given with great care so as not to produce superpurgation of the bowels (scours), as physics in this condition would tend to weaken the animal.

It is to be borne in mind that pure water and nourishing food play a very important part in the treatment of Anemia.

APHTHAE.

(Sore mouth and tongue—Pustular Stomatitis)

CAUSE.—Superficial eruptions of the mucous membrances of the mouth and tongue. Frequently seen during convalescence of intermittent fever. This condition may also follow diseases of the digestive system, as Indigestion, etc., due to the blood absorbing toxic materials which break out in the form of pustules about the mouth and the whole alimentary canal (stomach and intestines).

SYMPTOMS.—The appetite is impaired, the mouth hot, the pulse not much affected as a rule, the temperature is slightly elevated, the animal is unable to masticate, and small vesicles appear and eventually terminate into pustules and burst and discharge a small amount of pus at the parts where the sores are the deepest.

TREATMENT.—Remove the cause if possible. Feed clean, soft food that is easily digested, as hot wheat bran mashes and steamed rolled oats, vegetables, etc. For a mouth-wash dissolve the following: One dram of Copper Sulphate, one dram of Chlorate of Potash, one dram of Boracic Acid in clean hot water, and syringe out the mouth two or three times a day. To the drinking water add one ounce of Hyposulphite of Soda twice a day. Where the appetite is impaired, administer the following: Pulv. Nux Vomica, Pulv. Gentian Root, Pulv. Iron, Pulv. Nitrate of Potash each two ounces. Mix and make into sixteen capsules and give one capsule three times a day with capsule gun.

AZOTURIA.

CAUSE.—This disease is usually due to work after a period of idleness, during which the animal has been liberally fed. It is found principally among highly-fed draft horses, and never in animals which are regularly

worked. Light breeds of horses are also susceptible to this disease.

Symptoms.—Attack is sudden and usually appears when the horse has traveled a short distance after having been stabled for a few days. The characteristic symptoms of this disease in an animal are: Excitability without apparent cause; actions seem to indicate injury of the hind quarters or loins. Animal has a peculiar goose-rumped look, owing to the muscles over the quarters being violently contracted, and are hard on pressure. One hind limb is generally advanced in front of the other, and on attempting to put weight on it, the hind quarters will drop until at times the hocks almost touch the ground. Sometimes a front leg is affected. The breathing is hurried. Animal is bathed in sweat, and is in such agony that it will seize almost anything with its teeth. Although the pulse is hard and frequent, the internal temperature, even in severe cases, seldom rises to any marked extent. The urine is dark-red to dirty-brown color. Owing to the stoppage of the worm-like movement of the bowels, there is generally constipation and retention of the urine. Sometimes the symptoms are milder than here described. In other cases the animal soon falls to the ground and continues to struggle in a delirious, half-paralyzed state until he dies. Sometimes this disease is mistaken for colic or acute indigestion, but it can be readily distinguished by the color of the urine.

Treatment.—At the first symptom, stop and blanket the animal and let stand from one to three hours. Then move to the nearest shelter, keeping the animal as quiet and comfortable as possible, as excitement aggravates the disease. Give Aloin, two drams; Ginger, two drams, in capsule, and administer with capsule gun. Also, give the following prescription: Potassi Nitrate, eight ounces; Sodii Bicarbonate, eight ounces; Potassi Iodide, one and one-half ounces. Mix well and make into thirty-two powders. Give one powder in drinking water

every four hours, or in capsule, and give with capsule gun. Injections of soap and warm water per rectum are beneficial. Immerse a blanket in hot water and place over loins, then covering with a dry blanket, or, if this is impossible, apply the following liniment: Aqua Ammonia Fort., two ounces; Turpentine, two ounces; Sweet Oil, four ounces, and rub in like a shampoo over the loins. It may be necessary to draw off the urine, which is sometimes retained. Allow the animal to drink often, though in small quantities, of pure water with the chill taken off. If he is unable to stand on his feet it is well to turn him from side to side every six hours. It is also advisable to fill bags with hay and place against his shoulders to prevent him from lying flat on his side, as this may cause congestion of the lungs. Avoid drenching—it is dangerous. Should the animal show signs of uneasiness, give one ounce of Potassi Bromide in the drinking water every four hours until the excitement has subsided.

BARRENNESS.

(Failure to Breed)

CAUSE.—Contraction of the neck of the womb, growths on or in the ovaries, Whites or Leucorrhea. The first is the only form of barrenness which responds readily to treatment.

SYMPROMS.—A mare may come in heat normally, or stay in heat continually, or not come in heat at all.

TREATMENT.—Wash the hands in some antiseptic solution, such as Carbolic Acid or Bichloride of Mercury, and see that the finger-nails are smooth. Grease the hand and arm with vaseline and proceed to dilate the neck of the womb. It may be difficult at first to insert the finger, but the opening will gradually enlarge. Work slowly and carefully until three fingers may be inserted. Breeding should follow about three hours after the womb has been dilated.

BLEEDING.

(Hemorrhage)

Bleeding sometimes follows operations as castration and wounds due to various causes.

Treatment.—When bleeding from a large artery, it should be tied with a clean silk or linen thread or twisted with a pair of forceps or cauterized with a hot iron. Sometimes compression by the use of tightly bound bandages proves effective, although the former appliances are more practical. Tincture chloride of iron, applied to small arteries or veins, causes the blood to clot in the arteries or veins, and hence stops the hemorrhage. It is very essential that all wounds should be treated antiseptically and I cannot say that I am in favor of washing a wound with water only in cases where the wound is very filthy, and I prefer powder applications in preference to any liquid antiseptics. The following will be found very effective in the treatment of the majority of wounds: Boracic acid, two ounces; iodoform, two drams; tannic acid, two ounces; calomel, one dram; powder finely and mix well. Place in sifter top can and apply two or three times daily.

BLOOD POISONING.

(Septicaemia or Pyemia)

Cause.—By the popular term, "Blood Poison," is meant a state of constitutional disturbance brought on by the entrance of putrid products—usually from a wound—into the blood. As a rule some pressure or inoculation is necessary for the introduction of poison into the circulation; hence, the necessity of free drainage and thorough disinfection of the wound, and the only hopeful cases are those in which by this means the supply of poison may be cut short.

SYMPTOMS.—It is introduced through any wound or abrasion, whether due to injury, disease or by an operation. Signs of septic poison are heat, pain and swelling.

TREATMENT.—It is necessary to see that the wound has good drainage, and wash with Carbolic Acid, one tablespoonful to one pint of distilled water or Bichloride of Mercury perhaps is the best in an infected wound. Apply one part to one thousand parts water. Also, give internally, Potassi Iodide, one ounce; Sodii Hyposulphite, eight ounces. Make into eight powders and give one powder two or three times a day in their drinking water or in capsule, and give with capsule gun. This is an intestinal antiseptic which is very valuable in the treatment of Blood Poisoning. Feed soft, laxative food and green grass, if possible.

BOG SPAVIN.

CAUSE.—Faulty conformation, slipping, falling through a bridge or culvert; large loosely built draft horses are prone to this blemish. Bog Spavin is hereditary, and you should, therefore, select a good type of animal for breeding purposes.

SYMPTOMS.—A puffy swelling located in front and on the inside of the hock, varying from the size of a walnut to that of a man's fist. It very seldom causes lameness, but is a serious disfigurement and blemish.

TREATMENT.—Treatment is not satisfactory unless taken in its first stages and when the animal is young. If there is heat, pain and swelling, apply cold water or ice packs until the inflammation has left the parts. Then use the following prescription: Tincture of Iodine, two ounces; Gum Camphor, two ounces, Gasolene, one pint. Mix and shake well before applying with a nail or tooth brush twice a week.

I may add that I have derived some wonderful results in treatment of Bog Spavin with the above mentioned prescription in both young and old animals, and per-

haps it will be well to use it on both young and old animals in both acute and chronic forms of Bog Spavin.

BONE SPAVIN.

Cause.—Sprains of the hock from falling, slipping, jumping, pulling, traveling on uneven roads, falling through bridges, etc.

Since Spavin is due to causes which come into existence after birth, it cannot be regarded an an hereditary disease. Hereditary predisposition, however, is largely accountable for its appearance. In the first place, the process of evolution in the horse, which is a single-toed animal, descended from a five-toed ancestor, predisposes him to suffer from union of the bones of the hock, just as it predisposes him to splints. The weaker the bones of the hock in comparison to the weight of the body the more inclined will the animal naturally be to contract Spavin.

Symptoms.—Spasmodic catching up of the spavined limb, the moment the heel of the foot touches the ground, something after the manner of string-halt. At times the stiffness can be observed only when the animal is pushed from one side of the stall to the other. Spavin may often be detected when riding a horse down a steep hill from the fact that he drags the toe.

The time of all others when a spavined horse will be apt to show his lameness will be the day following a hard day's work, and when he makes his first move from the stable in the morning is the proper moment for examination. Therefore, you should be prepared to form judgment quickly in these cases, for the longer the animal is trotted up and down the less lame will he generally become.

We may have a visible sign of Spavin, swelling and hardness of the part, without lameness. If there be heat and tenderness on pressure, lameness will almost always be present. A careful comparison should be made of the hocks.

TREATMENT.—An important factor in treating Spavin is keeping the animal quiet. This can be accomplished by placing the animal in a very narrow stall, carrying his feed and drinking water for a month or six weeks, and apply the following ointment: Red Iodide of Mercury, two drams; Pulverized Cantharides, three drams; Turpentine, thirty minims; Pine Tar, two drams; lard, two ounces. Mix well and rub in well for twenty minutes every forty-eight hours until three applications have been applied. Repeat this treatment again in two weeks, and grease well with lard.

To cure a bone spavin it is necessary to unite two or more bones of the hock. The same thing exists in bone spavin as in a fractured bone, only we have no ragged edges like that of a fracture to unite; but the animal must be kept quiet. The younger the animal the easier the spavin is to treat, because the bones hardened with age contain more mineral matter and less flexible animal matter. While treating the animal, feed food that is easily digested.

BOTS.

(Gastrophilis)

Effect of Bots on the Health of Horses

Although the presence of bots inside of a horse can be of no possible advantage to him, their presence, when in small numbers, as a rule produce very little or no ill effect in the horse, but if their number be large they cannot help being a source of debility and irritation. In practically all cases they produce indigestion, especially among young horses, also loss of condition, colic and even death.

CAUSE.—Bot flies lay their eggs during the autumn months on the skin and hair of the horse. These eggs on becoming hatched (in from 20 to 25 days) produce small worms which irritate the skin by their move-

ments and thus cause the horse to lick them off and to take them into his mouth, with the result that they gain access to various parts of the intestinal canal. The bot having selected its place of residence, attaches itself to the membrane lining the stomach and intestines, and derives its sustenance during its stay from the wound made by its hooks. In the summer the larva, after living inside the horse for about ten months, quits its hold and is expelled with the feces. Having concealed itself near the surface of the ground it becomes changed into a chrysalis from which the gadfly issues after an inactive existence of from thirty to forty days. The female fly becomes impregnated, lays her eggs on those parts of the horse from which they can be most easily licked off, and thus completes her cycle of existence.

Symptoms.—Membranes about the eyes and mouth are very pale, as though the animal had lost a large quantity of blood; they will also be subject to colicky attacks, hair faded, dull, rough appearance, appetite poor and manifests a pot belly.

Prevention.—The best means of prevention are spraying your horses with the following fly repellant: Crude Carbolic Acid, 10%; Oil of Tar, 25%; Crude Oil, 65%. Mix thoroughly. This prevents the gadfly from depositing her eggs on the animals.

Treatment.—Withhold all food for twenty-four hours, then administer Oil of Turpentine, one ounce; place in a gelatin capsule and give with capsule gun. Follow this in six hours with a physic consisting of Aloin, two drams; Ginger, two drams. Place in a gelatin capsule and give with capsule gun. Repeat the above treatment in a week or ten days to insure the expulsion of Bots that might have escaped the first treatment.

BRONCHITIS.

Cause.—It may be the result of debility, constitutional diseases, inhalation of impure air, smoke, or

gases. Sometimes brought on by drenching by the escape of liquid into the windpipe; remember, a horse cannot breathe through his mouth. It may also be caused by sudden chill, foreign bodies in windpipe, micro organisms, or it may be associated with influenza, glanders, lung fever, etc.

Symptoms.—Sore throat, loss of appetite, thirst, animal appears dull, membranes of the mouth, eyes and nose are reddened; urine is scanty and highly colored; cough dry and husky. After two or three days the cough becomes looser and a frothy, sticky mucus of a yellowish color is present. This gradually becomes puslike, after which the animal seems somewhat relieved. In the first stages the pulse is soft and weak, but frequently the temperature is high, ranging from 105° F. to 106° F.; the breathing is quick and more or less difficult.

Treatment.—Place the horse in a clean, comfortable, well ventilated stall, exclude drafts, blanket if the weather is chilly. Also, hand rub the legs and bandage them. Inhalations from steam of hot water and Turpentine are beneficial. Also administer Chlorate of Potassi, two ounces; Nitrate of Potash, two ounces; Tannic Acid, one ounce. Mix this with a pint of black-strap molasses and give about one tablespoonful well back on the tongue with a wooden paddle every six hours. In severe attacks of Bronchitis it is well to apply a liniment consisting of Turpentine, Aqua-Ammonia Fort., and raw Linseed Oil, each four ounces; mix well and apply to the throat and down the windpipe once or twice a day. The animal should be fed on soft food, such as hot bran mashes, grass, carrots, kale, apples or steamed rolled oats. After the acute symptoms of the disease disappear, give Pulverized Gentian Root, one ounce; Nux Vomica, two ounces; Nitrate of Potash, three ounces; Pulverized Fenugreek Seed, six ounces. Mix and give one tablespoonful three times a day in the feed or in a gelatin capsule and administer with a capsule gun.

CAPPED KNEE.

CAUSE.—Bruises from pawing or striking objects with the knee, falling on the ground, etc., are perhaps the most common causes.

SYMPTOMS.—It may be a simple bruise, or it may be a severe wound. There is always swelling, heat and pain present. The joint becomes stiff and interferes with the movement of the leg. Under careful treatment the swelling and enlargement disappear.

TREATMENT.—Relieve the inflammation and clean the wound by fomenting with hot water, to which add a few drops of Carbolic Acid. If the wound is very large, trim off the ragged edges with a pair of scissors and apply the following: Boracic Acid, two ounces; Iodoform, one ounce; Tannic Acid, one ounce. Powder finely, mix and apply two or three times a day. If the skin is not broken, apply cold water or ice packs until the inflammation has subsided; then use the following: Tincture of Iodine, one ounce; Camphor, two ounces, and Gasolene, eight ounces. Apply with nail or toothbrush every forty-eight hours until the enlargement has disappeared.

CAPPED HOCK.

CAUSE.—Some horses have the habit of rubbing or striking their hocks against the partition of their stalls. May also be produced by kicks from other horses, or hocks may be bruised by the singletree.

SYMPTOMS.—An enlargement at the point of the hock, which may run up along the tendons and muscles of the leg. Repeated injuries cause the hock to enlarge and become flabby, and in some cases it contains a bloody serum or pus.

TREATMENT.—Do not attempt to lance the puffy swelling on the point of the hock, as you may produce an

open joint, which is very difficult to treat, and chances are that you would lose the animal.

The treatment that I would recommend is to find out the true cause and remove it. When the puffy swelling is hot and painful, apply cold water or ice packs. When the heat and pain have subsided apply the following: Tincture of Iodine, two ounces; Gum Camphor, two ounces, dissolved in one pint of Gasolene. Shake the contents of the bottle before using each time and apply with a nail or toothbrush every forty-eight hours. This is very penetrating and will remove the enlargement or absorb fluids that might have accumulated from the result of the bruise.

CASTRATION.

There are few countries where this operation is not performed to any great extent. Under favorable conditions of health, castration should be performed at the age of one year. The safest months are April and May, and the safest time a week or two after being turned out to pasture when he is shedding his coat. Do not operate upon a colt that has been kept in ill ventilated place, but have the colt in good condition, and the weather moderate, neither too hot or too cold. See that he has no distemper or any such disease. It is necessary that the hands and instruments be thoroughly cleansed by washing them in hot water, a little soap and a few drops of cresol. If the age be above a year it is best to feed very light the day before the operation, as there is less danger from being thrown and tied and also from the operation itself, when the bowels are empty. It is very important to ascertain whether or not the colt has ever suffered rupture, as he must be operated upon differently. Examine the testicles to see that they are down. Generally speaking after these precautions, so far as the animal is concerned, he is ready for the operation.

There are several methods of removing the testicles and I will mention only the Emasculator method. This

is the latest method of operation, and gives results that are satisfactory in majority of cases. In my opinion it is the best and most humane. Open the scrotum and allow the testicles to protrude, being careful to make the opening sufficiently large. When the testicles protrude sufficiently far from the opening in the scrotum, pour some cresol and cotton-seed oil (20 drops of cresol to an ounce of cotton-seed oil) around the cords and into the scrotum. Apply it thoroughly in order to prevent its healing too rapidly. Open the emasculator and place it around the cord, shove up as far as possible on the cord without pulling or using force. Should the patient pull upon the cord it is better to suspend operation for a time until he ceases, as the length of the cord cannot be ascertained unless it is slack when the emasculator is placed at the proper point. Tighten up the instrument by means of pressing the two handles together until the testicle is squeezed off. This makes a peculiarly dull cut, different from that of a sharp knife and thus has the effect of closing the end of the artery and preventing the flow of blood. Some veterinarians take off both testicles at the same time. There is, however, more danger from bleeding in this way, and I recommend that each be taken off separately. The patient may be allowed to regain his feet as soon as the testicles are removed. I desire to add again that it is absolutely necessary to see that the hands of the operator and the instruments are thoroughly cleansed both before and after the operation.

Bleeding After Castration.—Frequently you will be called on to stop bleeding after veterinaries or farmers have used some obsolete method of castration, and I would recommend that you use either of the following suggestions:

If bleeding is from the little artery in the back portion of the cord, it will generally stop of its own accord, but if it should continue to bleed for 30 minutes, throw clean, cold water against the part.

When bleeding is from the large artery in front of the cord, it is considered dangerous. The artery should be tied with a silk thread if possible, or twisted with a pair of forceps. Occasionally the artery cannot be found, in which case the hole in the scrotum should be plugged with a clean cloth saturated with Tincture of Iron, which will clot the blood and thus close the artery.

CHOKING.

This term applies to obstruction of the gullet as well as that of the windpipe.

CAUSE.—Too rapid eating, from which pieces of carrots or other roots, or a quantity of dry food becomes lodged in the gullet. Although obstructions of the windpipe caused by drenching, or from food entering the lungs, may not prove fatal for several days, an obstruction in the gullet will kill a horse in a very short time.

TREATMENT.—No time should be lost in attempting to remove the obstruction from the gullet. It may be dislodged by gently manipulating the gullet. If unsuccessful in dislodging the obstruction in this manner, use a probang, an instrument made for this purpose, or inject Sweet or Olive Oil into the gullet with a hypodermic syringe, or give hypodermic injections of Arecoline. In administering drenches with the object of dislodging obstructions in the gullet, you must remember that the liquids used are apt to go the wrong way, that is to say, enter the lungs, and give rise to lung complications, as lung fever, bronchitis, etc. Obstructions of solid substance in the windpipe generally cause death very shortly. When liquids enter the lungs, death is not so apt to occur, as the animal may live several days, and sometimes even get well. They should be treated the same as for lung fever.

COFFIN-JOINT LAMENESS.

(Navicular Disease)

Cause.—Driving young animals on hard roads. Always found in the front feet, owing no doubt to the fact the front feet support largely the weight of the body.

Symptoms.—The symptoms are very hard to detect. As a rule the animal will point the affected foot when at rest even before there is any lameness present. While at work he apparently goes sound, but when placed in the stable, or when stopped on hard ground, one foot will be set out in front of the other and resting on the toe. It will be noticed that the animal takes a few lame steps and then goes well again. Again he may be lame for a day, or he may leave the stable in the morning apparently well and sound and go lame during the day. In the course of time he will develop a severe case of lameness, which may last for five or six days. These spells are intermittent and finally he becomes permanently lame, and the more he is driven the greater the lameness, and he steps short, wears the toe of the shoe, stumbles, falls on his knees when the road is rough. Sometimes both front feet are affected and the shoulders will be stiff. When put to work he sweats from pain; there will be extreme heat about the foot, and he will flinch from pressure.

Comparatively few recoveries are made from this disease.

Treatment.—First remove the shoe. If the foot is inflamed, poultice with hot bran or flaxseed meal. After the inflammation disappears, clean the foot well, clip the hair from around the top of the hoof and use the following: Red Iodide of Mercury, two drams; Pulverized Cantharides, four drams; Turpentine, thirty drops; Lard, two ounces. Mix well and apply every forty-eight hours, rubbing in well for twenty minutes

each time. After three or four applications have been applied, turn the animal out to pasture. Repeat this treatment again in a month or so. Animals affected with this disease should be put to slow and easy work on soft ground, and carefully shod. This disease is unsatisfactorily treated and only a few cases recover when the best care is taken.

CORNS.

CAUSE.—Dry feet, increased pressure from ill fitting shoes, or high heeled shoes, which tend to contract the heels and produce corns. Wide flat feet are predisposed to bruises which terminate in corns.

SYMPTOMS.—Lameness, or as the old saying goes, "The animal will go tenderfooted." When standing the animal is generally very restless, they paw their bedding behind them at night. Tapping or pressure on the foot will assist in locating a corn.

TREATMENT.—Discover the true cause of the corn and remove it if possible. Take away all pressure from over the corn and turn the animal out in some damp pasture. If this cannot be done, put on a flat "bar" shoe, packing the sole of the foot with Pine Tar and Oakum; then place a leather between the foot and shoe. Repeat this application every two weeks, as this will keep the sole soft and flexible, and with proper shoeing your animal will be relieved of corns.

Frequently coffin-joint lameness or navicular disease is mistaken for corns.

CONSTIPATION.

CAUSE.—Indigestible foods, irregular feeding, lack of, or too much, exercise, insufficient secretion of digestive materials, strictures, ruptures, paralysis, worms, folding and twisting of the intestines, which frequently occurs in old age.

SYMPTOMS.—The animal cannot expel the contents of the intestines, which frequently causes colicky pains. Death from this form of constipation is generally due to rupture of the intestines, when due to indigestible foods or irregular feeding. Lack of, or too much, exercise seldom produces death, although the animal may not pass any fecal matter for a week.

TREATMENT.—Give a capsule containing Aloin, two drams, and Pulverized Ginger, two drams, every eighteen hours until the animal has a movement of the bowels. Then give the following tonic: Pulverized Nux Vomica, two ounces; Pulverized Gentian Root, two ounces; Pulverized Fenugreek Seed, four ounces. Mix well and give one tablespoonful in feed three times a day. If the animal refuses to eat it in the feed, place one tablespoonful in gelatin capsule and administer with capsule gun. This will stimulate the worm-like movement of the bowels and strengthen the heart action.

Give the animal all the water it will drink. If the water is cold, take the chill off by warming or adding warm water. If the animal will eat, feed food that is easily digested, such as grass, carrots, turnips, potatoes and apples, but do not feed too large a quantity at one time. Hot bran mashes or steamed rolled oats are very nourishing and easily digested. Rectal injections of Soap and Turpentine in small quantities, added to warm water, are very beneficial, and I would recommend their use. It is advisable to elevate the animal's hind parts when giving rectal injections, as it will cause the animal to retain the injection much longer, consequently it does its intended work much better.

If due to worms, fast the animal for twenty-four hours and give Barbadoes Aloes, three drams; Calomel, one dram; Ferri Sulphate, two drams; Antimony Tartrate, two drams. Place in gelatin capsule and give with capsule gun. This dose should be repeated in ten days to insure the expulsion of newly hatched worms.

COLD.

(Nasal Catarrh)

Cause.—Atmospheric changes common in the spring and fall; animal allowed to chill when standing in a draft, or driven when the system is in a poor condition. It is also produced by inhaling irritating gases, smoke, drenching through the nose, dusty hay or grain that contains infectious matter.

Symptoms.—Animal is stupid, does not take food very freely, hair stands and looks dusty, throat becomes sore, pulse is not greatly affected. There may be a slight rise of temperature, say 101° F. to 103° F. After a day or two there will be a discharge of mucus from the nostrils which may be offensive to the smell. There is generally an increased flow of urine. The breathing is not much affected.

Treatment.—Make the animal as comfortable as possible by placing in a clean stall with pure air, but avoid drafts. Blanket if the weather is chilly and give the following prescription: Chloride of Potash, two ounces; Nitrate of Potash, four ounces. Mix these well in a pint of Pine Tar and place about one tablespoonful of the mixture as far back on the tongue as possible every six hours. Relief is very certain if this treatment is given in the first stages. If not it will become chronic and terminate into nasal gleet, or lung complications.

COUGH.

(Acute and Chronic)

As a cough is a symptom of various diseases, these in addition to the cough should be treated.

Kinds of Cough.—Many writers give several different varieties, but for sake of convenience I will divide them into two forms, namely: Acute and Chronic.

CAUSE.—Acute Coughs are generally due to sudden exposure to cold, drafts and are the forerunning symptom of a disease of the organs of breathing.

Chronic Coughs are associated with, and often a result of, sore throat, lung fever, pleurisy, bronchitis, broken wind, influenza, nasal gleet, catarrh, glanders, heaves and distemper.

TREATMENT.—Under each disease of which a cough is a symptom, I have also prescribed to include its suppression. The following prescription is reasonable in price, yet very effective in all forms of cough: Tannic Acid, one ounce; Potassi Chlorate, four ounces; Potassi Nitrate, four ounces. Powder well and mix with Black Strap Molasses, one pint; placing container in hot water assists in dissolving contents. When this is thoroughly mixed add Pine Tar one pint, and place one tablespoonful well back on the tongue with a wooden paddle every three or four hours, according to the severity of the cough.

Sometimes a liniment applied to the throat and windpipe has a good effect, and I would recommend the following on account of its penetrating qualities: Aqua Ammonia Fort., two ounces; Turpentine, two ounces; Raw Linseed Oil, four ounces. Mix and apply twice daily, shaking the contents of the bottle well before using.

COLT CONSTIPATION.

CAUSE.—Improper digestion of its mother's milk, especially when overheated or not allowed to nurse enough.

SYMPTOMS.—The colt appears stupid; does not care to move about, but lies flat on either side and shows signs of great pain.

TREATMENT.—Give two tablespoonfuls of Cascara Sagrada. Great care must be exercised in administering

the medicine to place it well back on the tongue; do not hold the nose high or some of the liquid may enter the lungs; it is much better to waste some of the medicine. One of the most important factors in the treatment of Colt Constipation is rectal injections; they relieve temperature, gases, and pain, promoting the worm-like action of the bowels and liquefying their contents.

COLT DIARRHOEA.

Cause.—Specific infection, the action of which is favored by insanitary conditions, irregular feeding, or permitting the colt to nurse when the mother is overheated or out of condition.

Symptoms.—Frequent watery discharges, sometimes tinged with blood, and as the disease progresses the colt shows signs of great pain. If not treated promptly, the disease will terminate fatally in the course of six or ten days.

Treatment.—Determine the exact cause, if possible, and remove it. If the colt has not been weaned, attention should at once be given the mare, and if anything is wrong with her, it may be best to take the little patient away from its mother and feed it on cow's milk sweetened with sugar. Give two tablespoonfuls of Castor Oil on the tongue; this will remove the irritant within the bowels. The following prescription is a very reliable remedy: Protan, three ounces; Pulv. Ginger, four drams; Zinc Sulphocarbolates, four grains. Mix and make into twelve powders; give one powder on the tongue every four hours, effecting a cure within a few days. Do not pull the tongue, or hold the head too high. Permit the animal to swallow slowly. Remember that sanitary surroundings are essential in the treatment of all diseases.

CRACKED HEELS.

Cause.—There is little doubt in my mind that ammonia, which is so plentifully found in ill-kept stables, is the chief cause of cracked heels. The action of ammonia on the skin renders it soft and pulpy, and diminishes its strength by separating the layers of which it is composed.

Symptoms.—When inflammation is set up in the part, the secretion of natural oil is interfered with and cracks usually occur in the place where the skin becomes wrinkled when the pastern joint is bent. The discharge from cracked heels has an offensive smell. In early stages there is extreme heat and swelling, there is pain and lameness, which usually disappear as the case becomes chronic.

Treatment.—Keep the affected parts clean as possible, if there is extreme inflammation present. Apply hot poultice made from bran or flaxseed meal. When the inflammation subsides, apply Zinc Ointment twice daily. Before each application of the ointment, wash with Warm Water and Castile Soap. Feed carrots, green grass, if possible, also hot bran mashes or steam rolled oats each morning. Sometimes it is well to give a physic, and I would recommend Aloin, one and one-half drams; Ginger, two drams. A physic has very good effect in reducing the swelling of the legs.

DENTISTRY.

The art of animal dentistry has been abused by the owners of stock allowing the services of irresponsible men in the veterinary profession, who do not look to the betterment of the animal's condition. The owner of the animals, not being able to see the condition of the animal's teeth for himself, is persuaded into having the animal's teeth worked on regardless of whether it is needed

or not. The quack or transient veterinarian will pull and crack healthy, sound teeth, and lacerate the poor animal's mouth.

How to Examine an Animal's Teeth.—Perhaps the best method that can be applied in examining an animal's teeth or mouth is by the use of a mouth speculum. There are several different makes on the market, and some can be purchased very reasonably and will give excellent service.

Unnatural Condition and Irritation., Etc., of the Teeth.—After studying the anatomy thoroughly you will be able to see at once any abnormal condition of the teeth or mouth, which are as follows:

Dentition begins at or soon after birth, and continues until the horse is five years old, and the animal suffers more or less during that time. The lower animals do not appear to suffer so much in getting their first teeth, but do suffer when getting their permanent ones, even more, perhaps, than the human being. Hence, we have dentition fever in the horse from three or four up to five years old—there is a weak pulse, impaired appetite, a staring coat, the bowels sometimes costive, and sometimes there is diarrhoea; he is not able to work, and it is hard to say what is the matter, unless the system is affected by the irritation set up by the teeth, for all of the organs appear to be in a healthy state. Such symptoms indicate that the temporary teeth are not being displaced in a proper way. The same applies to cattle. The food passes improperly digested, which may be due to the state of the teeth. It is well in such cases to examine the mouth, and if you find some tooth not properly displaced, the gums swollen, remove it—which you can sometimes do with the thumb and finger, or you may have to use the forceps, which we believe the best. Then give a laxative, feed on soft food, and the animal will soon recover.

Irregular Teeth.—The gums are sometimes irritated in connection with the molar teeth. This irritation

extends and affects the pharynx and larynx, and perhaps a severe cough is the result, called a dentition cough. It is often the result of but a slight irritation at the back part of the gums—this cough may not be very severe, but it is troublesome—or the gum may become badly swollen. The best treatment is to scarify it. We find tumors in the upper and lower jaw, perhaps from the imperfect development of the teeth, or from slight injury, irritation, etc. They may or may not be malignant, and are likely to extend and involve the alveoli and bone. If not malignant, and only upon the surface, it is called epulis, and is not very common. If not malignant remove it, and it may do well for some time; it will return, extend and become a hopeless case. The horse frequently suffers from sharp, projecting teeth, which occurs more commonly in old horses, from wearing down the teeth in an uneven manner. They will be sharper on the inner edge of the lower jaw and the outer edge of the upper jaw, which may be from faulty formation. In such cases the animal has difficulty in eating, grinds his food, ejecting it. Perhaps when driving him he carries the head to one side from the bearing of the bit not being the same on both sides. If the teeth are sharp in the lower jaw they lacerate the tongue; if in the upper they lacerate the cheeks. The best remedy for this is the tooth rasp, and there is no necessity for using the mouth speculum. After rasping, feed upon soft food for a day or two. There are more difficult cases where the teeth project to some extent, generally in old horses, due to malformation of the jaw. Sometimes the upper jaw extends over the lower, and a part of the tooth is not worn down properly, and after a time it interferes with mastication, and the animal suffers considerably from irritation. The same appears in the front teeth of the upper jaw, but it is not so serious as the back tooth. The animal may be reduced to a walking skeleton, almost; although the appetite appears good, the food is thrown out. You can detect by examining with the hand, and if it is the last molar tooth it is advisable to place a twitch on the horse's nose, and using

the mouth speculum, then remove the projecting portion of the tooth by means of the molar cutter. After using the molar cutters smooth the cut surface of the tooth with a tooth rasp and feed properly, and he will improve rapidly.

Ulcerated or Caries of the Teeth.—The lower animals do not suffer from this as much as man, for two reasons: their teeth are complicated, and the mode of living. Sweets have a bad effect upon the teeth. Horses rarely suffer from toothache, but they frequently suffer from carious teeth. Caries may commence either on the table surface, root or fang, or even in that which surrounds the teeth; or it may result from a slight injury, as getting a stone, etc., between the teeth when masticating, or it may begin in the fang from improper development of the dentine, which receives its nourishment from the tooth-pulp, and when this is gone, the tooth does not receive proper nourishment, etc.

Symptoms.—In the early stages they are not very plain, but become better developed after a time. The animal will show some irritation while eating. Although he is hungry, and goes ravenously to eating, he will all at once quit masticating, and either holds the food in the mouth or throws it out unchewed. This may be due to a slight irritation of the teeth. He acts something similar to the human being, and these symptoms may be present for some time before well-marked symptoms appear. But in, it may be, six months or a year, certain distinct symptoms appear. If it is in the table surface, the tooth is brittle and wears down more readily and the tooth opposite to it grows longer; he quits or rejects the food, and a peculiar stench or fetor is present. The anionesmal falls off in condition in most cases. When it is in, as for instance, an elephant's pulse rate is from connection with the root or fang it is different. As it extends it involves the other tissues, sets up irritation in the upper sinus of the head, if it is in the lower jaw, as well as the symptoms given, you will, perhaps, notice a

slight enlargement which extends down the lower portion of the jaw; sinuses form and pus is discharged. Exercise care and judgment and you need make no great mistakes. I know of horses being destroyed for glanders when only affected with ulcerated teeth.

Treatment.—Remove the tooth—and this is not very easily done, but there are various ways. Open the mouth by means of a mouth speculum, and, if practical, use the forceps. The trouble with the forceps is, they are apt to break the tooth when they are closed upon it too tight. There is a root forcep which can be used in the lower jaw, as the teeth in that are more easily removed than those in the upper jaw; or you may remove by trephining, and then, by inserting a punch, it can be driven out. When you attempt to remove a tooth and it breaks down, it will, in many cases, come away of itself without further treatment. The first and second molars are more difficult to punch out than the others. After treatment keep the animal quiet; feed upon soft food that does not require much mastication. There is a difference in treating the cavity. Some recommend filling it with gutta percha to prevent the food from passing into the sinus. It will sometimes pass into both sinuses; but generally there is no necessity for filling it. If you trephine, it is more needful than in pulling. If food passes into the sinuses then it will be necessary to fill the hole. Sometimes in parrot-mouth the incisors of the lower jaw grow and irritate the mucous membrane of the opposite jaw when it is necessary to use incisor cutters or rasp them down.

Wolf or Supernumerary Teeth.—Wolf teeth are comparatively small in size and have only one root and are found just in front of the upper molar teeth. Sometimes they do harm, but that is an exception and not the rule. They can be easily removed with a pair of small forceps or they may be punched out in some instances, but I prefer that you use the regular wolf tooth forcep as it looks much better to the onlooker. I think they in-

terfere with the eyes, causing them to become watery and inflamed, due to the tooth exerting some influence upon the opthalmic division of the fifth nerve.

Supernumerary Teeth.—Tooth substance may develop in almost any part of the body. These are called supernumerary teeth and are commonly found in the testicles, ovaries and sinuses of the head, etc.

Foreign Body Lodged in the Mouth.—A foreign body sometimes gets lodged in the mouth, as a piece of wood, wire from the feed, etc., and possibly becomes imbeded between the molar teeth, and the animal is not able to get it out. There will be difficulty in masticating; a flow of saliva; the animal stands with the head poked out, as if suffering from sore throat. He will partially masticate, then try to swallow, and perhaps eject the food. These symptoms are present in sore throat, and it is necessary to make a careful examination; you are not likely to mistake just one case, but if there is some other disease prevalent that presents similar symptoms, then you are liable to make a mistake. As stated before, exercise care and judgment and you need make no great mistakes, this applies to all diseases, etc., that you are called upon to treat.

CURB.

Cause.—Faulty conformation of the hind legs; that is to say, if a animal has crooked legs, a slight sprain from slipping or jumping will produce Curb. In cases where an animal has well proportioned limbs, and is afflicted with Curb, it is caused by a rupture of the small ligament or cord situated just back of the hock.

Symptoms.—A swelling will be noticed on the back part of the hock. At first the animal is lame and the enlargement is hot and painful. After a few days' rest the inflammation will partially subside and the enlargement can be plainly seen. When the animal is walked about he may be very lame at the start, but this will disappear as he is moved.

Treatment.—When the curb is hot and painful, it is well to apply ice packs or cold water to the part. When the inflammation subsides, apply Red Iodide of Mercury, two drams; Lard, two ounces. Mix and rub in well for twenty minutes; repeat every forty-eight hours until three applications are made. If the Curb is of long standing it is more difficult to treat, in which case the above treatment should be repeated again in two or three months. Do not use the animal in drawing heavy loads, or drive on slippery roads, for six months. Give the blister time to strengthen the ruptured tendons. A high-heeled shoe is often valuable in relieving tendons of their tension.

DIARRHOEA.

Cause.—Sudden change of food, frozen food, soft food, unwholesome food, stagnant water, or drinking large quantities of water at one time, purgative medicines, or it may be associated with blood diseases, lung and intestinal affections, or produced by micro-organisms. Many horses, particularly slack loined, slight, "washy" animals, purge if worked or excited, as may be observed among race horses when taken to a race course. Diarrhœa may also be due to worms, or it may be merely an effort on the part of nature to expel some irritant matter from the bowels or from the blood, in which case it should on no account be prematurely checked.

Symptoms.—Frequent loose evacuations of the intestines, with or without pronounced abdominal pain; generally, loss of appetite, animal looks gaunt and the hair rough.

Treatment.—Keep the animal quiet, comfortably stabled and warmly blanketed. Give pure water to drink, often, but in small quantities. If the animal will eat, feed moderately on clean food, as rolled oats and dry bran. Also, give the following prescription: Protan, three ounces; Zinc Sulphocarbolates, ten grains; Creosote, one dram; Powdered Ginger, two ounces;

Powdered Gum Catechu, six drams; Powdered Gum Camphor, one-half dram. Mix and make eight powders. Place one powder in gelatin capsule and give with capsule gun, or the same sized dose dissolved in a pint of water and used as a drench. However, be very careful when drenching an animal. *It is dangerous.* This prescription will not only check the diarrhœa, but will tone the muscular fibres of the intestines which aid in throwing off these irritant matters from the system. If the horse shows colicky pains, administer the same treatment as that recommended for colic. It is well to give the following treatment in the convalescing stages of diarrhœa: Pulv. Gentian Root, four ounces; Ferri Sulphate, four ounces Pulv. Nux Vomica, four ounces; Pulv. Fenugreek Seed, eight ounces. Mix and give one heaping tablespoonful three times daily in feed. This facilitates digestion by stimulating the flow of gastric juices.

DISTEMPER.

Cause.—Distemper is placed among the germ diseases, and is produced by the Streptococcus of Schutz. It is contagious and a number of animals in the same stable may become affected at the same time. It is supposed to attack an animal but once, but it may be contracted a second time. May occur at any time of the year.

Symptoms.—The animal will first appear dull, and show loss of appetite, and the hair will look dull and rough. There will be a watery discharge from the nose, and in a day or so a lump will appear between the jaws; the animal keeps his head in a peculiar position; saliva runs from its mouth; the pulse will be a little faster than normal. The breathing will become more rapid and the lump between the jaws will get larger. This lump, or tumor, may form in other parts of the body, on the shoulder, in the groin, lungs or intestines. It usually causes death if it cannot be absorbed. This is called

irregular distemper. A determined effort should be made to draw the lump, or tumor, to a head as soon as possible.

Treatment.—Place the horse in a clean, well-ventilated and lighted stall, excluding all drafts, blanket the animal, hand rub the legs and bandage them; give inhalations of steam from Hot Water and Turpentine. A good method for heating water for this purpose is to place hot stones or bricks in the water and Turpentine. This will relieve the hard breathing. Remember a horse cannot breathe through his mouth, therefore, liquid drenches are dangerous. A paste made from Potassi Chlorate, two ounces; Potassi Nitrate, two ounces, dissolved into a pint of warm molasses and given well back on the tongue in tablespoonful doses every two or three hours is very beneficial. A liniment made from equal parts of Aqua Ammonia Fort., Turpentine and Sweet Oil should be applied every morning over the enlargement that appears in the region of the throat. If the enlargement fails to come to a head, use a clean knife for lancing purposes.

After an attack of distemper your horse is generally run down in condition. Give the following: Potassi Nitrate, four ounces; Pulv. Gentian Root, four ounces; Pulv. Anise Seed, eight ounces. Make into thirty-two powders and give one powder three times daily in feed.

DROPSY.

(Of the Belly, Chest, Sheath, Udder and Legs)

Cause.—Poor circulation; kidneys not working properly; lack of exercise; diseases of the lungs, liver, heart, womb or sheath. Mares heavy with foal often have dropsical swellings.

Symptoms.—Swelling seldom contains fluid, although sometimes a sticky serum oozes through the skin;

fingers pressed against the swollen parts leave impressions.

TREATMENT.—Avoid giving physics in this condition when possible, especially to mares with foal. Feed laxative food, as hot bran mashes, green grass, carrots, potatoes, etc.; also the following mixture: Potassi Iodide, two ounces; Potassi Nitrate, four ounces; Chloride of Potash, two ounces. Mix and make into sixteen powders. Place one powder in their drinking water three times a day. Exercise the animal as much as possible and you will derive good results from this treatment within a week or so.

I may add that in the above affection it is a bad practice to apply hot applications, as the chances are it would produce a sloughing of the skin.

ECZEMA.

CAUSE.—Anything that interferes with the healthy action of the skin, as checked sweating, irritation from dirty blankets or harness, or from accumulation of dirt on the skin through want of grooming, errors in feeding, overheat, or by infection. In some cases the cause seems to be constitutional; in others, local. Though the disease is not parasitic in character, it is probable that when once contracted the diseased parts may become infected.

SYMPTOMS.—Slight dryness and eruptions that may affect the head, ears, neck, shoulders, flanks, inside of thighs and root of the tail, followed by vesicles or pimples which burst and discharge, or the contents may be absorbed. The animal will rub against the stall, manger, or any other object he can reach, until the parts are very sore, or if worked, he will rub himself violently when unharnessed.

TREATMENT.—Give Fowler's Solution of Arsenic, one tablespoonful morning and night on their feed; also give a physic consisting of two drams of Aloin and two

drams of Pulverized Ginger in gelatin capsule. Give at one dose. One physic is all that is necessary to cool out the blood, which will assist materially in treating Eczema. Also, apply Zinc Ointment twice daily over the vesicles or pimples which will appear on the skin. Also, feed easily digested food if possible, such as carrots, apples, grass, hot bran mashes and steamed rolled oats, and keep the animal clean and groom carefully with clean combs and brushes.

EYE DISEASES.

Inflammation of the Membrane of Nictitans

Conjunctivitis, or Inflammation of the superficial structure of the eye.

Cause.—Direct or indirect injury to the eye, as a blow from a whip, dust, sand or chaff in the eye, or it may be due to extreme cold, heat, or foul air.

The membrane of nictation is an accessory eyelid common to all domestic animals, the purpose of which is to remove foreign substances from the eye in much the same manner as we use the hand.

Symptoms.—Conjunctivitis and inflammation of the membranes of nictitans are very much the same. A partial or complete closure of the eye, and a watery discharge due to overstimulation of the lachrymal glands, the fluid being secreted so abundantly that it is impossible for the tear duct to carry it away; hence, there will be a continuous overflow of tears down the horse's face. The formation of a film or scum over the eye need not cause alarm if the eye shows no sign of puncture.

Treatment.—Examine the eye carefully and remove any foreign body with clean cloth or feather and apply the following: Yellow Oxide of Mercury, three grains; Lanolin, one ounce. Mix well together and apply to the eye three or four times daily. Avoid the use of liquid medicines, as they are hard to apply, and the animal throws them out by shaking the head.

FISTULOUS WITHERS.

Cause.—Fistulous Withers are seen mostly in horses that have a thick neck as well as those that are very high in the withers, or among saddle horses, those that are very low on the withers, the saddle here riding forward and bruising the parts. They are often caused by ill-fitting collars or saddles, by direct injury from blows, and from the horse rolling upon rough, sharp stones. In this location, the ulcer of the skin or a simple abscess, if not properly and punctually treated, may terminate into Fistula. The pus burrows and finds lodgment deep down between the muscles, and escapes only when the sinuses become surcharged when, during motion of the muscles, the pus is forced to the surface.

Symptoms.—These of course will vary according to the progress made by the Fistula. Following an injury we may often notice soreness or stiffness of the front legs, and upon careful examination of the withers we will see small tortuous lines running from the point of irritation downwards and backwards over the region of the shoulder. The stiffness of the limbs may disappear at this time, and heat and soreness of the parts may become less noticeable, but the swelling of the shoulders continues to enlarge. The swelling may often have the form of a running ulcer, or its contents may dry up and leave a tumor, which gradually develops the common characteristic of a fistulous tumor. When the enlargement has an opening, we should carefully examine the pus cavity, as upon this condition will wholly depend our treatment.

Treatment.—Keep the animal as quiet as possible, as any movements of the limbs cause the pus to spread between the lines of the muscles and form larger abscesses or tumors. When the bone becomes diseased, it is very difficult to effect a cure, especially where the pus burrows back of the Scapula (Shoulder Blade). In case

the abscess is newly formed, and close to the surface, syringing out with a solution made from Bichloride of Mercury, five grains to one ounce of water, generally causes the white fibrous tissue to slough away and the parts to heal rapidly. If the abscess is deep, and the bones become diseased, the pus will have a very offensive odor, and I would recommend free use of a knife and bone chisels to remove all diseased portions of bone or muscle.

FILARIAE.

(Thread-like Worm)

Cause.—Drinking stagnant water, or eating hay gathered from swamps or marshy land. When full grown, the worm measures from two to six inches in length; the tail is more or less curved. They are found in the lung cavity, the heart sac, and the intestinal cavity, from which they sometimes descend into the sac containing the testicles. Animals said to have a snake in the eye have been exhibited as curiosities; in all cases the simulated snake was nothing more than the Filariae.

Symptoms.—Colicky spells; poor appetite, indigestion, pot-belly, rough coat; swelling of the sheath, legs, and the lower surface of the belly.

Treatment.—Prevention is the only treatment, for when the worms once enter the digestive canal, it is impossible to remove them.

FOUNDER.

(Laminitis)

Cause.—Overeating or drinking—in fact, any irritation of the stomach or intestines is liable to be followed by Founder, owing to the similarity in the sensitive structure of the foot, skin, and mucous membranes. Horses with weak feet are predisposed to Founder, but

it may also occur in strong-footed animals. Founder is also produced by driving an animal on a hot summer day and then placing in the stable where the sweat is suddenly checked by drafts, etc.

Symptoms.—The horse is stiff, and moves with great difficulty; he will generally, though not always, remain standing. Throws weight upon the heel of the foot to relieve the toe, and if an effort is made to back him he will drag his feet. Excessive heat is present at the top of the hoof, and a throbbing of the arteries may be felt. When the fore feet only are affected, the horse will relieve them of as much weight as possible when walking by placing the hind feet well under the body, which results in a peculiar jumping motion. Founder may occur in all four feet, but the fore feet are more often affected than the hind ones. Mares sometimes founder after giving birth to a colt, due to inflammation of the womb; symptoms correspond to those of common Founder. Founder may be mistaken for disease of the lungs or kidneys, owing to the standing position and arched back.

Treatment.—In all cases of Founder, administer Potassi Iodide, one ounce; Soda Bicarbonate, four ounces; Potassi Nitrate, four ounces. Mix and give two tablespoonfuls in drinking water every six hours. If the animal will not take it in its water, place in gelatin capsule and give with capsule gun.

Find out the true cause of the disease, if possible, and perhaps a physic will be indicated, containing Aloin, two drams; Ginger, two drams; place it in a capsule and give with capsule gun. If desired results are not obtained in eighteen hours, repeat the dose until there is an action of the bowels. Founder following excessive irritation of the stomach and intestines, or mares heavy with foal, should not receive physics. Feed food that is easily digested, as carrots, kale, apples, potatoes, hot bran mashes, or steamed rolled oats, etc.

It is well to elevate the hind quarters and give rectal

injections of Warm Water and Glycerine. Stand in mud or water, or apply bags containing mud, bran or ice; in fact, anything that will have a cool, moist effect on the feet.

After the inflammation of the feet has subsided, and the animal walks fairly well, you should apply a blister containing Red Iodide of Mercury, two drams; Lard, two ounces, around the top of the hoofs, and rub in well twice forty-eight hours apart. In some cases of Founder it is recommended to bleed the animal in the foot. If this is attempted, good disinfectants should be used, as lock-jaw might follow.

GALLS.

Cause.—Injuries from ill-fitting collars, saddles, harness, hobbles and scalping-boots.

Treatment.—Remove the cause. Never wash a Gall with water, as this prevents its healing, nor use oils or salves, as they accumulate dirt, dust and germs, which may cause infection. The following application makes a very valuable dressing for Galls: Boracic Acid, one ounce; Corn Starch, one ounce; Tannic Acid, one-half ounce; Iodoform, one dram. Powder finely and place in sifter-top can. Dust on Gall before going to work and on retiring. This heals and refreshes the Galls and wounds by forming a smooth surface over the part, which permits it to heal while the horse works.

GREASE HEEL.

Cause.—Parisitic fungi invading cracked heels.

Symptoms.—Offensive discharge from the glands under the skin, and if not properly treated, red spots will appear, and the yellow discharge will form a hard crust sticking to the roots of the hair.

Treatment.—Cleanliness is one of the most important measures. Also, good nourishing food. If the skin

is swollen and tender, poultice with hot Flaxseed Meal or bran. After the swelling and tenderness have abated, wash well with good Castile Soap and Warm Water. Dry with clean cloth and apply the following mixture: Calomel, one dram; Iodoform, one dram; Boracic Acid, one ounce. Mix well and apply two to three times a day. Feed green grass, carrots, kale, apples, or potatoes if possible, also feed hot bran mashes. In all cases of Grease Heel give the following physic: Aloin, two drams; Pulv. Ginger, two drams. Place in a capsule and give with capsule gun. A physic has a very good effect on the blood, which assists materially in healing the cracks and nodules that appear in Grease Heel.

GLANDERS OR FARCY.

CAUSE.—Due to a specific germ called the Bacillus Malleii, or Bacillus of Glanders. Glanders, or Farcy, is very contagious, and is transmissible to man as well as animals. Cattle and sheep alone are immune. The disease may be contracted at watering troughs, stables, horseshoeing shops, in boats, trains and by harness, bits, curry combs, bedding, pails, etc., as well as by direct contact with a diseased animal.

SYMPTOMS.—Animal does not thrive although the appetite is good at times; loss of flesh, and is subject to sweats, the hair looks rough, the temperature increasing slightly, perhaps two degrees, a cough is generally present. Legs and abdomen are swollen; discharge from the nose, sometimes tinged with blood and very sticky, the membranes of the nose look dusty, and ulcers or spots are visible if closely examined. The glands under the back of the ears and between the jaws are hard, lumpy and swollen.

In addition to the above symptoms, Farcy affects the skin by producing swellings, or nodules, varying from the size of a pea to that of a hickory nut (called Farcy buds, or Farcy buttons), which are found inside of the hind legs under the abdomen, on the side of the chest,

shoulder and neck, also around the nose, lips and face. Generally there is a discharge of greenish-yellow pus, which is very sticky.

Glanders, or Farcy, may be mistaken for nasal catarrh, nasal gleet, ulcerated teeth, nettle rash, lymphangitis, distemper, etc. Fortunately, this dreaded disease is not very prevalent in this country, as every precaution has been taken to stamp it out.

No Treatment.—If at any time you have reason to think one of your animals has the disease, or even a neighbor's, or a transient horse, exhibits the symptoms, it is your duty to report the fact to the State Veterinarian at once. You will do this if you have your own welfare and that of your neighborhood at heart.

HEAVES.

(*Emphysema of the Lungs*)

Cause.—Fast or heavy work. It may follow Lung Fever or Pleurisy, or the animal may inherit weakness in the walls of the air-cells of the lungs. A very common cause is feeding dusty or dirty hay, or bulky food. Horses that are accustomed to eating ravenously are often victims of Heaves.

Symptoms.—Disease may develop slowly or rapidly. When the animal is at rest, the air is taken into the lungs in a more or less normal manner, but is expelled by two distinct efforts, the abdominal muscles aiding the lungs in expiration, as may be seen by the heaving of the flank; the movement of the ribs in breathing is scarcely noticeable in a heavy horse. A healthy animal, when at rest, will throw the air from the lungs in a single effort. The difficulty in breathing is constant and increases in proportion to the amount of food in the stomach and intestines. At the beginning of the attack there is a spasmodic cough, which is more or less intermittent; this develops later into a short, weak, suppressed cough, as if the animal lacked strength in his chest to expel a

full breath, often accompanied by expulsion of wind from the anus, which is somewhat protruded.

TREATMENT.—Feed good, nourishing food, but nothing that is of a bulky nature. Feed more grain and less hay, which should be dampened with water if dusty. Do not feed dusty, musty or bulky food, but give plenty of potatoes, apples, kale and green grass. Have your druggist make up one quart of Fowler's Solution of Arsenic, omitting the Tincture of Lavender. This is soothing to the organs of breathing, and should be given two tablespoonfuls three times a day on the feed. After a week or ten days you might increase the dose slightly. Although this will make the horse work much better, do not give it with the hope of effecting a complete cure, as very few cases recover fully from this disease.

INFLUENZA.

(*Pink Eye—Epizootic Catarrh*)

CAUSE.—Influenza is a specific and infectious fever, which shows a marked tendency to spread rapidly over a large area of country. It generally appears suddenly, without preliminary symptoms, and may become fully developed in twenty-four hours.

SYMPTOMS.—The usual symptoms are those of Catarrh, although the bowels, lungs and brain complications may be present, either singly or combined. It always gives rise to great weakness. The distinguishing characteristics of Influenza from Distemper, Sore Throat, and other diseases affecting the organs of breathing, are the suddenness of the attack, rise of temperature, varying from 103° to 106° F., pulse feeble and fast, and a pinkish, swollen appearance of the inside of the eyelids. The animal is dull, in some cases almost unconscious. Sometimes the legs are very stiff and swollen, and there is great difficulty in moving about.

TREATMENT.—Place the affected animal in a clean,

well ventilated stall, avoid drafts, give pure water to drink with chill taken off, in small quantities but often. Blanket if the weather is chilly, hand rub the legs and bandage, give Quinine, two drams, in a gelatin capsule with capsule gun every four hours. In addition to the above, administer the treatment recommended for Acute and Chronic Coughs.

Feed good, nutritious food that has a laxative effect on the bowels, as it is dangerous to give horses physic with this disease. Hot bran mashes, steamed rolled oats and vegetables are very beneficial.

LAMPAS.

Cause.—In young horses it is commonly caused by cutting teeth. In older animals it is usually due to indigestion.

Symptoms.—A puffy swelling and redness of the gums. The animal may have difficulty in eating.

Treatment.—In young animals, when cutting teeth, let nature take its course, but when an animal is five years or over, place two drams of Aloin, and two drams of Pulv. Ginger, in a gelatin capsule and administer with capsule gun. Then tone up the digestive organs by mixing one ounce of Pulv. Gentian Root, one ounce of Pulv. Nux Vomica, four ounces of Bicarbonate of Soda. Make into eight powders and give one powder in feed twice daily, or place in gelatin capsule and administer with capsule gun.

LEECHES.

(*Haemopis*)

The leeches which suck the blood of the horse may be divided into two classes, the external parasites which attach themselves to the skin of the legs and adjacent parts of the horse, and the Hæmopis Sanguisuga, and others of this class, which, not being able to penetrate

the skin, endeavor to enter the mouth or nostrils of the horse when he is drinking or grazing in wet and leech-infected pastures. They sometimes cling to the mucous membrane of the eyes. The horse leech, which lives in the water, usually gains access to the mouth and nostrils of the animal, when young and not more than one-tenth of an inch long. They rarely go beyond the air and food passages, generally fastening themselves to the walls of the windpipe and gullet, where they cling till the animal dies from loss of blood or suffocation. They often cause bleeding from the mouth and nostrils, and may be seen by close examination.

TREATMENT.—Endeavor to build up the condition of the animal with suitable food. Also feed liberal quantities of rock salt. Where the leeches cling tightly to the mucous membranes of the mouth and nostrils, it is well to cause the horse to inhale the vapor from hot water containing turpentine.

LOCK-JAW.

(*Tetanus*)

CAUSE.—The bacilli of Tetanus are widely distributed and can be found in practically every part of the globe. Their favorite place of production, however, is in barn yards and marshy ground. They are frequently swallowed by stock along with forage, and can often be found in recently expelled feces. The most favorable temperature for their development is about 70° F. They act by means of extremely virulent poisons which they produce, and which causes the terrible symptoms that are characteristic of the disease.

SYMPTOMS.—The muscles of expression are usually the first brought under the continual spasm of tetanus, and when thus affected give the face of the animal a pinched and drawn-in appearance. The other muscles of the head and those of the neck are next attacked. The mouth is closed, the nose poked out, the head elevated.

The muscles of breathing, and those of the limbs, become contracted so that the neck is hollowed, and the tail is raised, the horse stands with outstretched limbs. The animal shows great stiffness or rigidity in attempted movements. The eyes are sunken, and when startled or excited, the breathing is quickened and the flanks have a wrinkled or corrugated appearance. Death may quickly occur from continuous spasms of the muscles of the throat. Another sign is the flying up of the accessory eyelid when the animal is excited.

Treatment.—Almost every medicine in the pharmacopoeia has been tried in the treatment of tetanus, certain remedies meeting with great success in the hands of some practitioners, and proving total failures in the hands of others. It is, however, generally admitted by the members of the profession that perfect quietness is of greatest importance in the treatment of tetanus. Place the patient in a dry, well ventilated, loose box stall, slightly darkened, if possible, in an out-of-the-way place, and fill the ears with cotton-wool. Administer a full dose of purgative medicine (aloes eight drams) and follow with belladonna in a capsule or bolus. The body should be lightly clothed, and the animal placed in slings. Never give drench if it produces excitement. When the wound can be discovered, powerful antiseptics should be continually applied to its lowest depths. Arsenious acid, chloroform, hyoscyamus, digitalis, belladonna, chloral hydrate, morphine, postassium bromide, carbolic acid, and many other medicines have been used, and some of them have been found beneficial. Belladonna is probably as good as any, and should be given freely. Inhalations of chloroform temporarily abate spasm, but the reaction afterwards is usually severe. Medicines which can be given in the drinking-water may be administered in that way. The food should consist of milk, eggs, beef-tea, wine gruel, and food of that description, easily taken and of a very nutritious character. Too great care or attention cannot ment consists of allowing a liberal quantity of good nu-

possibly be bestowed upon the animal. The after-treat- tritious food—green food is preferable. Exercise daily for some time after recovery has taken place, and the work should be light and slow for a month or two.

PREVENTIVE TREATMENT.—An antitoxin serum, if injected under the skin of a patient before a surgical operation, or immediately after the infection of a wound, is a most reliable safeguard against tetanus. It should always be used in districts where tetanus is prevalent. Its value subcutaneously is solely preventive, not curative; and it is of no use when once the disease has gained a foothold.

LUNG FEVER.

(*Pneumonia*)

CAUSE.—Predisposition is largely accountable for this disease, which is more common to young horses than old; also, changes of temperature, introduction of foreign bodies or liquids into the trachea (windpipe) and the bronchial tubes, inhalation of smoke or irritating gases, excitement, exposure to cold after clipping, turning out to pasture from a warm stable, or injury to chest or ribs from being struck with a pole, etc.

SYMPTOMS.—Dullness in spirit; animal usually shivers or trembles; when this ceases the temperature rises to perhaps 103° to 106° F., pulse increases to sixty or ninety per minute, full and bounding; breathing short and labored and abnormally quick, increasing to perhaps fifty inspirations per minute, whereas in health it does not exceed twelve or thirteen per minute. A cough is also likely to be present, and the animals remain standing until they are on the road to recovery, or until death takes place. Other symptoms are constipation, feces covered with mucus or slime; urination frequent, scanty and dark in color; appetite poor, but thirst great; the eyes look glassy and the membranes have an inflamed appearance. It is a good sign if the animal looks about freely. When the critical stage is past the temperature

and pulse gradually fall, the appetite returns and the urine becomes more abundant, and takes on its natural color, the cough loosens, and the discharge from the lungs is profuse, and of a yellowish color, and the breathing becomes normal.

TREATMENT.—Good care is of the utmost importance. Place the horse in a comfortable, well ventilated stall, being careful to exclude drafts. Hand rub and bandage the legs with woolen cloth. Blanket the animal, give plenty of bedding and keep pure water before him at all times. Internally administer Quinine, two ounces; Iodide of Ammonia, two ounces; Ammonia Bicarbonate, two ounces. Mix well and make into sixteen powders. Place powder in gelatin capsule, and give with capsule gun every four hours. It is quite necessary that the above remedy should be placed in capsule, as drugs of this nature tend to irritate the throat. Do not give physics, as it is much safer to give laxative food, as hot bran mashes, steam rolled oats or some vegetables, in fact anything the animal will eat, i. e., that has food values. It is advisable to apply over the chest the following liniment: Aqua Ammonia Fort, four ounces; Turpentine, four ounces; Raw Linseed Oil, four ounces. Mix and shake well before applying each time over the chest cavity.

In case the animal is constipated, give rectal injections of soap and warm water containing a few drops of Turpentine.

MANGE.

(*Scabies*)

CAUSE.—Mange is a contagious disease, produced by the presence of a small parasite that varies in length from a fiftieth to a hundredth of an inch, according to the species, of which there are three: Sarcoptes, which generally affects the withers; Symbiotes Communis, affecting the legs, and the Psoroptes Communis, which

affects horses about the root of the tail and mane. The latter is one most commonly found affecting horses. They multiply rapidly and are spread from diseased to healthy horses by their bodies coming in contact with one another, or by corrals, stables, railroad cars, etc., recently occupied by mangy horses.

SYMPTOMS.—The mange mite attacks the skin and produces a thickness of its outer surface, covering it with crusts and scabs, with a consequent loss of hair. Intense itching accompanies the disease, and affected horses continually bite and rub themselves.

Psoroptic Mange commences at the root of the tail, or at the roots of the mane on the neck or withers, and gradually spreads over the back, up to the head, over the sides, and finally affects the entire body. In cases of long standing the skin becomes ulcerated, the animal becomes greatly weakened, emaciated and finally dies.

TREATMENT.—When a large number of horses are affected (in one locality) it is best to prepare a vat and dip them, under the supervision of the United States Bureau of Animal Industry. When just a few horses become affected, the following has proven very effective: Sulphur, eight ounces; Oil of Tar, eight ounces; Sweet Oil, two quarts. Mix and apply liberally to the parts affected. A few applications are generally sufficient to eradicate the disease.

LYMPHANGITIS.

CAUSE.—This ailment is common with hard working horses, and is caused by confining them in the stable and allowing their usual amount of food. More nutriment is consumed than can be taken up by the system, which causes an irritation. It is frequently found in certain stables on Monday morning, hence its name—Monday Morning Disease.

SYMPTOMS.—Swelling and lameness, most usually affecting the hind leg instead of the thigh and extending

down the leg in a hard ridge. It will pit on pressure, and cause intense pain; the horse will have difficulty in extending the limb forward, the swelling may surround the leg entirely. Pulse will be fifty to sixty per minute, temperature 102° to 104° F., breathing will be faster than normal. The animal has great thirst, but the appetite is very poor; usually remains standing; if he lies down will have great difficulty in getting up.

Treatment.—In this particular disease apply hot fomentations to the affected limb or limbs, for one hour, then rub dry and apply Camphorated Liniment. Give Nitrate Potassi, Chlorate of Potassi, Iodide Potassi, each four ounces. Mix and make into thirty-two powders. Give one powder three times a day in drinking water or in a gelatin capsule and give with capsule gun.

In most cases it is advisable to give a physic: Aloin, two drams; Pulv. Gentian Root, one dram; Ginger, one dram. Place in gelatin capsule and give with capsule gun.

MUD FEVER.

Cause.—Horses driven over muddy roads during the day and exposed to freezing weather at night, or driving them over muddy roads, then washing the limbs and not drying them properly, often produces a superficial inflammation of the legs.

Symptoms.—The legs are swollen, extremely hot and tender, the horse is stiff, the hair comes off the legs easily and if the cause is not removed severe complications may follow, as the secretions of the skin become greatly affected.

Treatment.—Prevention. Horses that are driven over muddy, wet roads should have their legs rubbed dry when stabling them for any length of time. When the legs are badly swollen wash them with clean warm water and castile soap and dry them well with a clean soft cloth.

Then apply Zinc Oxide Ointment or a lotion made from Acetate of Lead, one ounce; Zinc Sulphate, one-half ounce. Place in a quart of clean water and apply twice daily. Either application is very beneficial in the treatment of Mud Fever. Feed the animal wheat bran mashes, steamed rolled oats, vegetables, etc., as they have a very good effect on the system which aids in relieving the inflammation of the skin.

NASAL GLEET.

(*Chronic Catarrh*)

Cause.—Exposure to cold followed by neglect, and lack of nourishing food; bruise or fracture of the frontal bones of the head; injury of the blood-vessels inside the bones, or an ulcerated tooth. May also be caused by tumor, or foreign substance or liquids in the nasal cavities. Sometimes dried pus in the nostrils, resulting from a cold, will cause nasal gleet.

Symptoms.—A white or yellowish discharge from one or both of the nostrils, the quantity varying with the severity of the attack and the length of time the disease has been established. If, when tapping over the nose below the eye, a dull sound is produced, it is safe to conclude that the cavities are filled with pus; to make certain, compare the sick animal with a healthy one; in some cases you will notice that even the bones of the nose below the eye are slightly elevated. The lining of the nose may be of a red or yellow color but not ulcerated in spots, as in Glanders. The animal may continue in good spirits and work well for a time but as the case develops he becomes lean in flesh and what is termed hide-bound. Always examine the teeth. In a case of long standing, the discharge has a fetid smell, differing in this respect also from Glanders.

Treatment.—If not due to fractured bones of the head or ulcerated teeth, the animal will, in most cases, recover with proper medical treatment. When due to

injury to the bones of the head, tumors, ulcerated teeth or dried pus in the nasal cavities, it is best to remove the diseased portion with the aid of bone chisel or tephine and treat the wound antiseptically. In the mild forms of nasal-gleet or chronic catarrh, administer the following: Ferri Sulphate, Potassi Iodide, Nux Vomica, each four ounces. Mix well and make into thirty-two capsules. Give one capsule three times daily and feed food that is nourishing and easily digested.

NAVEL STRING INFECTION.

(*Umbilical Pyemia*)

Cause and Nature.—While the unborn foal (foetus) is in the womb of its mother, it is surrounded by enveloping membranes which constitute the afterbirth on delivery. These membranes are attached to the wall of the womb and are connected to the foetus by means of the navel-string (umbilical cord) which is provided with two arteries and a vein for the nourishment of the young creature and for the removal of its waste products.

It also has a narrow canal (the urachus) which serves to remove the urine of the foetus; in fact the subsequently formed bladder takes its origin from a dilation of the urachus. Under normal conditions when the foal is born, respiration takes place, the umbilical arteries and veins become quickly blocked up, urine is discharged through the urethra (which communicates with the penis or vagina, as the case may be), the foal enjoys a separate existence and the wound caused by the division of the umbilical cord leaves a scar which is known as the navel.

It is usually supposed that the germ of navel-string infection gains admittance into the body through the exposed surface before the wound is closed. However, I am of the opinion that the mother is the bearer of the infection in a great many cases for in the uterine secretions of mares whose foals fell with navel-string infection, the same characteristic germs were found as were

present in the joints of the affected foals. The infectious material is, by the act of covering, conveyed from mare to mare, so that the mucous membranes of the womb becomes the habitat of the specific germ. By inoculation of these germs into the blood stream of foals an illness is produced which in the smallest particular cannot be distinguished from that arising in naturally affected foals. It is a strange fact that when the infected germs are transmitted by the mother, their presence does not produce any disturbance in her.

This is a very common malady in most places. I have known several instances on particular farms where they were unable to raise either foals or calves, but if the mother were removed to another farm immediately after or before foaling, the foal or calf lived and was reared without difficulty, and although constitutional debility plays an important part, the presence of specific germs constituting an infected area is, I believe, the most important factor in producing this disease.

According to my observation, about seventy-five per cent of the cases die within the first three weeks after birth. This high rate of mortality would be considerably diminished if proper treatment was adopted.

Symptoms.—The attack usually comes on during the second or third week after birth and almost always before the closure of the navel opening, which, in affected animals, will be found to be in a wet and suppurating condition. Occasionally foals two or three months old which have the urachus closed and are in an apparently healthy condition contract this disease in a form of painful swelling of the joints. The first symptoms are generally dullness; more or less fever; lameness which is often attributed to rheumatism or to injury caused by the mare treading on foal; the disinclination to move or even to stand. Upon examination the patient will be found to have a soft, gelatinous swelling of one or more of the joints of which the hock, elbow, fetlock, stifle and hip usually manifest the enlargement most clearly.

These swellings are hot and painful to the touch; they tend to suppurate and frequently cause intense lameness. In very rare cases open urachus may exist without any joint inflammation. In this disease, inflammation of the joints and open urachus are almost always co-existent.

Animals that recover from a bad attack are seldom worth the trouble of rearing, because as a rule their constitution becomes permanently impaired and one or more of their joints becomes stiffened by the attack.

Treatment.—In the treatment of this disease, we have to attend to constitutional disturbances, inflamed joints, open urachus and complications such as constipation and diarrhoea. The comfort of our little patient must be studied under all circumstances. If the weather be at all cold it should be covered by a warm sheet. Should the foal have any difficulty in rising from the recumbent position, an attendant should assist it to rise and see that it is regularly fed. It is only in extreme cases that the animal refuses to suck its dam. During warm weather, and especially if the ground is dry, such a patient is always better off for a little sunshine, but on no account must it be left out during extreme heat, as in this state it is very liable to sunstroke. The best food for the mare is grass, which during the day, she can generally have. The inflamed joints of the foal should be rubbed lightly with the following, after being thoroughly mixed: Red Iodide of Mercury, two drams; Vaseline, two ounces, every forty-eight hours, which, when applied to the skin, appears to have a well-marked antiseptic action on the underlying tissues. An inflamed joint should on no account be bathed with warm water, fomented or poulticed because the application of moist heat would be the best possible means for promoting the development of the infective germs which are the cause of the local and general disturbance. The open navel-string should not be ligatured because that operation is generally followed by an increased inflammation of the part, and by an aggravation of the other symptoms apparently on

account of this outlet for deleterious products becoming blocked up. If the navel-string has been ligatured and is in an inflamed state, the ligature should be removed without delay. If the foal is constipated give two or three ounces of Castor Oil; also, administer the following: Zinc Sulphocarbolates, one-half dram; Hyposulphite of Soda, four ounces. Mix and make into thirty-two powders. Give one powder well back on the tongue every four hours.

As a supplement to the food, we may give brown sugar or treacle, both of which are easily digested and are very nourishing. Four or five eggs daily will also aid in keeping up the strength.

NAVEL RUPTURE.

(*Umbilical Hernia*)

Cause.—Hereditary predisposition is well marked in this complaint. It may exist at birth, but so-called congenital rupture may very probably be the result of the pulling which the navel-string underwent at the time of foaling. However, umbilical hernia usually occurs during the first two or three months after birth; that is to say, while the opening at the navel is becoming obliterated and the tissues at that place are becoming consolidated. They can, however, appear later and may result from more or less violent strains sustained when the foals are jumping or playing. At other times these strains are induced by intestinal irritation accompanied by diarrhoea or constipation with straining. But, however the strain may take place, the abdominal muscles contract and push the intestines towards the wall of the belly. Then if they find an opening or even a weak spot, like the ring of the navel while it is undergoing the process of becoming blocked up, they select it and a rupture is produced.

Symptoms.—This rupture, the situation of which clearly shows its character, may vary in size from that of a hen's egg to that of an ostrich's egg. If pressed

upon with the hand, especially if the animal is placed on its back, the rupture will disappear, to return, however, when the pressure is removed. If it be composed of intestines it will be soft and elastic when the bowels are empty, but when they are full of semi-solid food they will be doughy. In any event, the tumor will feel elastic when composed of intestines, but when formed of its connecting membranes, will naturally not vary in consistence. If intestines be present, movements and abdominal rumblings may be detected in it. This rupture rarely gives rise to serious consequences because its contents are composed of large intestines and omentum, either of which is, in this position, not liable to become strangulated. It may, however, become engorged and inflamed from injury. Its existence naturally depreciates the value of an animal suffering from it.

Treatment.—In the majority of cases, they will disappear of their own accord in two or three months. In case the rupture shows no signs of diminishing in size it is well to apply a bandage around the abdomen.

OPEN JOINT.

Cause.—Injuries such as a kick from a sharp shoe, wire cuts, punctures from snags, or from probing a wound near a joint. Open joint is one of the most serious accidents that may happen to a horse, for the sufferer is apt to die from the ensuing constitutional disturbance, and even if he recovers the joint will, in all probability, be permanently stiff.

Symptoms.—If the joint is opened or severely injured the wound will have an ordinary appearance except that there may be a flow of joint oil from the injured oil sack. However, the discharge gradually becomes more unhealthy until finally it is mixed with pus and blood and assumes a fetid odor. After two or three days the joint swells and becomes very painful and a high fever sets in. In unfavorable cases the animal dies from

exhaustion very shortly, or at best recovers with a permanently stiff joint.

TREATMENT.—Never probe a wound near a joint. If the injury is small and noticed immediately, apply Red Iodide of Mercury, two drams; Vaseline, two ounces. Mix and rub in well over the wound. This will set up sufficient inflammation to close the opening and kill any infection that may be present, as it possesses powerful antiseptic properties. If the wound is large, wash with Bichloride of Mercury, one part to one thousand parts distilled water. The wound should be washed twice a day with this solution. Then dust the wound with Tannic Acid, one ounce; Iodoform, one ounce; Boracic Acid, one ounce; Calomel, one dram. Mix and place in sifter top can and apply this after washing each time. Then bandage the wound by first placing clean absorbent cotton over the wound. Do not attempt to syringe a solution into an opening or some of the solution may gain entrance into the joint. Keep the animal as quiet as possible and feed laxative food.

PALESADE WORM.

(*Strongulus Armatus*)

This parasite thrives on marshy ground and is commonly found in the United States and Canada. The body of the worm is gray in color, more or less stiff and straight and thicker in the front than in the hind part; it varies in length, the male measuring from three-fourths of an inch to one inch and the female from one to two inches. It may occur in an adult or an immature state. In the former it implants itself on the mucous membrane of the large intestines by means of its armed mouth, while in the latter it lives in cysts underneath the mucous membrane of the intestines and is sometimes found in the brain, testicles and liver. The immature worms which do not issue directly from the cysts get into

the arteries and are carried by the force of the blood to all parts of the body.

Symptoms.—Same as in Red Worm with the exception of colicky pains caused by the worms blocking the arteries which carry blood to the intestines, thus interfering with the process of digestion. Where the worms enter the arteries of the limbs it results in lameness. It is a good plan to examine animals once or twice a year to insure them against this pest.

Treatment.—Same as for Red Worm.

PLEURISY.

Cause.—Exposure to sudden changes of temperature, confinement in ill-ventilated, damp stables, wounds penetrating the chest, fractured ribs, heart diseases. It also occurs in conjunction with Bronchitis, Influenza, etc.

Symptoms.—Generally only one side of the lungs is affected and that being the right, although it may affect both sides at the same time. First you will notice the animal distressed, uneasy, shivering, the affected side is painful to pressure of the hand. The breathing is short and quick, and the flanks heave—which shows that the animal tries to breathe as much as possible, by the action of the muscles of the abdomen and not by the movement of the ribs. The nostrils are dilated. There is usually a short, dry, painful cough present, which is repressed by the animal as much as possible, so as not to shake the inflamed parts. Often when expelling air from the lungs the horse gives a painful grunt especially when made to move. The pulse is generally hard and faster than usual. The temperature in early stages may rise from 104° to 106° F. If the ear is applied to the affected side a dry crackling or friction sound can be heard; a groove along the lower portion of the ribs will extend back to the flank. Within two or three days the pulse will be

softer and weaker, temperature will fall to 101° or 102° F. and there will be fluids form and the painful short breathing will disappear. The liquids may now undergo absorption if properly treated, and the case terminate favorably in a week or ten days.

Frequently large quantities of fluid accumulate in the chest cavity that cannot be absorbed, the breathing becomes more difficult, short and quick, pulse becomes weak and rapid and the animal dies from exhaustion.

TREATMENT.—Place the animal in a comfortable, roomy stall; blanket if the weather is chilly, permit fresh air, but no drafts, as this is very important. Apply a paste made from Mustard and cold water over the chest cavity. Internally, administer Ammonium Iodide, Chlorate of Potash, Nitrate of Potash, each four ounces. Make into thirty-two powders and give one powder every two or three hours in gelatin capsule and administer with capsule gun. The diet is a proper means of keeping up the animal and is very important. Coax the animal to eat grass or vegetables, hot bran mashes or steam rolled oats. If there is a cough present, give the same treatment as recommended for Acute and Chronic Coughs.

PIN WORM, THREAD OR MAW WORM.

(*Oxyuris Curvilis*)

This worm when full grown is about one and three-quarter inches in length; its tail is thin and whip-like and head thick and terminating in a curve somewhat resembling the crook of a stick. The presence of these parasites may be detected by a light-yellow substance (the eggs of the worms) which adheres to the skin below the anus. Pin Worms like Round Worms frequently come away with the feces.

TREATMENT.—Dissolve four tablespoonfuls Common Salt in one gallon of warm water and inject it into the rectum. When this has been expelled, follow with an in-

jection per rectum of Turpentine, four ounces, to one-half gallon Linseed Oil. Elevate the horse's hind quarters so as to retain the injection longer. This will expel the worms and their eggs that cling to the walls of the rectum. The worms sometimes make their way so far forward that it is impossible to reach them with an injection. In this case treat same as for Round worms.

Where there is irritation produced about the tail the horse continually rubs and it is well to apply Mercurial Ointment to both tail and the anus.

POLL EVIL.

Poll Evil is so-called because it occurs in the region of the poll. It is not a constitutional disease, but comes, no doubt, from well marked causes, as from inflammation set up and involving the bones and muscles in the region of the poll, and perhaps of the larger ligament. Owing to the low vitality of the parts and the action of the head in taking food, etc., the pus is apt to burrow deep into the muscle.

Cause.—Direct or indirect injury. A common cause is striking the head against a low doorway or an ill-fitting halter or bridle.

Symptoms.—Swelling just back of the ears on one or both sides of the head. The animal stands with the nose out; slight heat in the parts, pain on pressure. In the first stages, it is merely inflammatory action. The second stage is suppuration, or there may be great swelling in some cases when there is but little pus formed.

In other cases there is profuse suppuration and the pus makes its way out and discharges to the surface and sinuses are formed, which extend in various directions. Any abscess in this region is called Poll Evil.

Treatment.—When the enlargement is first noticed in the region of the poll, I would advise the following: Red Iodide of Mercury, four drams; Lard, four ounces,

rub in well over the enlargement and perhaps this will prevent sinuses from forming, but when the cases are long standing and so-called pipes are formed, I would advise removing all diseased material and treat as an ordinary wound.

PETECHIAL FEVER.

(*Purpura Haemorrhagica*)

CAUSE.—Constitutional weakness following some debilitating disease such as Distemper, Pink Eye, Catarrh and even following operations, when an animal becomes weak from want of exercise, in which case it generally appears during his recovery. It is not infectious and cannot be transmitted by inoculations.

SYMPTOMS.—There is a slight swelling of the limbs, most likely to be about the hocks. The swelling may disappear by exercising, but will soon return. The swellings present a very abrupt appearance, nearly the same as if a string were tied around the limbs and swell very quickly, and symptomatic of Purpura. Exudations take place in which, if on white limbs, you will see little red spots, from which a liquid is oozing. The swelling is very painful and the entire limb may be swollen. Small vesicles appear on the limbs and also in the mucous membranes, and it is well to look at the mucous membranes before giving your opinion, as you will, no doubt, detect these spots, which may extend into the lungs. These spots increase and may run into each other. The mucous membranes of the nose may become a mass of corrupt matter. The upper lip may hang pendulous, which is due to the want of nervous stimulus. If the nostrils are swollen very badly, there is difficulty in breathing and if the animal is not able to take food, the symptoms are considered very bad. The pulse varies much in some cases; although the swelling is very great, the pulse may not be more than forty or fifty per minute. The temperature is elevated one to three degrees above normal, there may

be a cough and a brownish colored discharge from the nostrils. The mouth and eyes become affected and, together with the discharge from the nose, the horse is a loathsome looking object. In milder cases the appetite is retained, or the animal may take food one day and the next refuse it. The bowels are constipated as a general rule in the first stages of the disease and the urine may be of a dark color, may even contain blood. There may be a peculiar dropsical swelling of these petechial spots or it may show itself in connection with the eyes and there may be blood extravasation without outer symptoms. This disease may effect the bowels, liver, lungs, etc. The animal usually stands, perhaps from the difficulty in moving the limbs. It is necessary to watch the case closely, for flies will attack him and he will be filled with maggots. Sloughing may take place; the entire sheath or patches upon the body may slough off and there may be paralysis of the penis.

Treatment.—Place the animal in a clean, light, comfortable stall. If the weather is cold, blanket. The following medicine is recommended because of its particular effect on the blood in this disease: Chlorate of Potash, eight ounces; Iodide of Potash, eight ounces; Quinine Sulphate, eight ounces. Make into thirty-two capsules and give one capsule every six hours. Also administer one ounce capsules filled with Spirits of Turpentine three or four times a day. Moisten the capsules with Sweet Oil and give with capsule gun. Feed hot bran mashes containing two or three ounces of pure Flaxseed meal. Also, feed vegetables, green grass, if possible.

QUITTOR.

(*Fistula of the Foot*)

Cause.—Injuries. Horses working on rough stony roads are subject to punctures, pricks, bruises, corns, treads, etc., which end in pus formation which does not

get a pendant opening and destroys the tissues with which it comes in contact. Finally it bursts, forms sinuses and pipes, as commonly called, at the top of the hoof.

Symptoms.—Extreme lameness, heat, pain and swelling will show themselves about the top of the hoof. As a rule a Quittor develops slowly and is more or less painful during the first stages. After the sinus is formed and the pus discharges, the inflammation generally subsides. Its healing process is often delayed due to the diseased portion of the cartilages inside the horny hoof.

Treatment.—Apply Flaxseed or hot Bran poultices to relieve the inflammation and hasten the formation of sinuses or pipes. Then with an ordinary syringe inject the following: Silver Nitrate, ten grains; Water, one ounce. Inject fifteen to twenty drops twice daily. Keep the food clean and the animal as quiet as possible. It is very disagreeable, as stated before, and the healing is very slow, but this must be naturally expected, as we are unable to provide the sinuses with good drainage.

RED WORM.

(*Strongylus Tetracanthus*)

The Red Worm varies in length from one-third to three and one-quarter inches, and is sometimes white, though it usually appears to be red because of the blood it contains. This parasite is found in all parts of the world. Its favorite haunt is marshy land.

Symptoms.—Paleness of all visible membranes, eyes watery and inflamed, swelling of the sheath, legs, and lower surface of the belly; fetid diarrhoea, dullness, debility, emaciation, rough coat, and the presence of worms in the feces. The worms when first passed are bright red in color but after being exposed to the air they turn

dark and may easily escape the notice of the casual observer.

Treatment.—Withhold all food for twenty-four hours, then place the following drugs in a gelatin capsule: Calomel, two drams, Barbadoes Aloes, three drams; Ferri Sulphate, two drams. Give with capsule gun. Also place the following tonic in their feed: Pulv. Quassia, one ounce; Ferri Sulphate, two ounces; Pulv. Anise Seed, two ounces. Mix and make sixteen powders. Give one powder two or three times a day in the feed.

RHEUMATISM.

Cause.—Exposure to cold rains, drafts, lying on damp ground when the blood is in poor condition. Also due to over-stimulating food.

Symptoms.—Lameness, swelling or soreness which may shift from one place to another, then finally locate in or near one of the joints of the limbs.

Treatment.—Take away all grains and feed laxative foods such as potatoes, carrots, apples, kale and good hay. If the weather is warm turn out to pasture, but confine in warm stable at night. It is advisable to give a physic, as Aloin, two drams; Gentian, one dram; Ginger, one dram. Place in gelatin capsule and give at one dose with capsule gun, as its action on the blood has a very good effect. When the swellings are painful, apply Camphorated Liniment once or twice daily. Also, administer the following tonic: Potassi Iodide, one ounce; Nitrate of Potash, two ounces; Chlorate of Potash, two ounces; Pulv. Gentian Root, one ounce; Ferri Sulphate, one ounce; Pulv. Anise Seed, four ounces. Mix well and make into twenty powders. Give one powder three times a day in bran or place in capsule and give with capsule gun.

RING BONE.

CAUSE.—Faulty conformation—a narrow or straight pastern joint is considered faulty. Be very careful in selecting a sire when breeding, as faulty conformation is hereditary. Ringbone may also result when young animals are put to work on hard roads, or running in stony pastures sometimes produces Ringbone before the bones have become properly hardened. Other causes are injury to tendons or ligaments, bruised joints, blows, calking, or picking up a nail.

SYMPTOMS.—Lameness will manifest itself when the horse first starts out in the morning; this may become less noticeable or even disappear temporarily as the animal works. They gradually grow lamer and examination will disclose an enlargement at or around the top of the hoof. This may appear in one or more feet, but the front feet are more often affected.

TREATMENT.—If the Ringbone is very much inflamed, reduce the heat by applying cold water or ice packs to the part. Clip off all hair from around the top of the hoof and rub in well for twenty minutes the following: Red Iodide of Mercury, two drams; Pulv. Cantharides, two drams; Turpentine, one dram; Pine Tar, two drams, and mix in two ounces of Lard. Apply the ointment every two days for a week and repeat same treatment in two weeks. Keeping the animal as quiet as possible will hasten its recovery. If the animal is comparatively young, recovery is certain, although the enlargement may never disappear.

ROUND WORM.

(*Ascaris Megalcephala*)

Resembles the Earth Worm somewhat in shape, yellowish-white in color, stiff and elastic. When full grown,

it varies in length from six to sixteen inches. These worms are usually found in the small intestines, although they sometimes invade the stomach, and when numerous seriously disturb the animal's health.

Symptoms.—The animal's general health is affected as is evident from the morbid state of his appetite, rough coat, pot-belly, liability to colic and slight diarrhoea. Some of these worms are often expelled with the feces. As they increase in number, they block up the small intestines, giving rise to colic, and may in time kill the horse. They sometimes cause perforation of the bowels.

Treatment.—Withhold all food from eighteen to twenty-four hours, then administer the following: Ferri Sulphate, two drams; Antimony Tartrate, two drams; Pulv. Quassia, two drams. Place in gelatin capsule and give with capsule gun. Follow this from six to eight hours with Aloin, two drams; Ginger, two drams, and give as above directed. It is a good plan to repeat the above treatment in ten days to insure the removal of any worms which may have survived the first treatment.

SCROTAL RUPTURE.

(*Inguinal Hernia*)

Cause.—Abnormal size of the upper ring through which a part of the intestines or its connecting membrane descends into and through the canal leading from the abdomen to the scrotal cavity. There is little danger of strangulation from this form of rupture which may occur at birth and disappear with age. A careful examination should therefore be made of the scrotum before castration.

Symptoms.—In most cases, this condition is easily detected. The scrotum will be somewhat enlarged. Sometimes the intestines will become strangulated and colicky

symptoms appear. When a young male colt shows signs of colic, examine him for Scrotal Rupture.

TREATMENT.—The trouble usually disappears with age although in some cases it is well to operate. Where colicky symptoms are present, roll the colt on its back, manipulating the scrotum. Diet carefully.

SHOE BOIL.

CAUSE.—Injuries, bruises or pressure when lying on a rough floor. Sharp heeled shoes and kicks also have a tendency to produce it.

SYMPTOMS.—A hot painful swelling of the Elbow joint when first noticed. When neglected, it takes on a white fibrous or callous growth.

TREATMENT.—First remove the cause. Do not lance the enlargement; let it come to a head of its own accord, by applying Red Iodide of Mercury, two drams; Pulv. Cantharides, three drams; Lard, two ounces. Mix well together and apply twice a week. When the swelling is hot and painful it is well to apply cold water or ice packs before applying the above mentioned prescription.

SPLINTS.

CAUSE.—This disease is chiefly produced by trotting or running on hard ground, etc. It is evident that horses with high knee action and heavy bodies are more liable to this disease. Jumping is also a common cause of splints, but the more accustomed a horse is to jumping the less liable he is to throw splints, because practice teaches the animal to regulate his movements so as to more or less diminish the disagreeable if not actually painful effect of concussion.

SYMPTOMS.—A splint is detected by grasping the horse's leg with the fingers upon one side and the thumb upon the other, and tracing the inner and outer splint

bones from their heads downward to their tapering extremities. Any actual enlargement will at once arrest the hand; any rising or irregularity will create suspicion and lead to close examination. Horses, especially young ones which have lately been put to work, not infrequently develop splints before any swelling appears. For this reason, in examining a case of obscure lameness, particularly if the animal is young, do not fail to look for the sign of splint lameness, namely; that the lameness is abnormally greater at a trot than at a walk and that the animal usually fails to bend the knees freely and grows worse with exercise. The last mentioned condition is also present with corns, but an examination of the foot will determine the question of their existence. In young horses splints are sometimes mistaken for coffin-joint lameness or navicular disease. To avoid this error, it should be remembered that, when brought on by navicular disease, the action of the limb improves with exercise; also that horses of five years of age or less very rarely suffer from coffin-joint disease. Some horses, owing to unusual development of the inner splint bones of the fore legs may appear to have splints, although careful examination may prove both limbs to be free from any bony deposit. When deciding such a point, note if the two inner splint bones are of the same size. Any swelling perceptible in a limb recently affected with splint-lameness is usually attended by heat and pain.

Treatment.—If there is heat present, foment with hot or cold water; when heat has subsided, apply the following ointment: Red Iodide of Mercury, two drams; Turpentine, twenty drops; Lard two ounces, and mix. Apply every forty-eight hours until three applications have been applied. Rub in for twenty minutes each time.

During this treatment use the horse for slow work on soft roads, etc. As a rule the splints will not disappear at once, but gradually. I may add that common splints are not considered an unsoundness.

SPASMODIC COLIC.

CAUSE.—Horses seem to be predisposed to this form of colic on account of the great length of their intestines which are apt to be telescoped, twisted or their circular muscular fibers spasmodically contracted. Perhaps the principal cause is a change of food, sudden change of temperature, constipation, drinking cold or too large a quantity of water, especially if the animal is warm; overloading the stomach with frozen or moudly food. Worms frequently produce colic.

SYMPTOMS.—If the animal is tied it will become uneasy, paw, point its nose to the flank, twitch the tail, lie down and get up frequently. If the animal is loose it will walk around, paw, kick at its belly with the hind feet, make attempts to lie down, roll on its back and remain in that position for a while. The pulse increases with the pain, temperature rises from one-half to one degree, breathing labored and fast, the animal sweats in spots, there may be diarrhoea present, but this does not frequently occur.

Unfavorable symptoms of spasmodic colic are cold legs to the feet, points of the ears cold, trembling of the muscles, cold sweats, mucous membranes of the nose, mouth and eyes have a dark color due to the congestion.

TREATMENT.—In all cases of spasmodic colic, except where there is diarrhoea present or mares heavily in foal, give Aloin, two drams; Ginger, two drams. Place in gelatine capsule and give with capsule gun. It is advisable to give rectal injection of Warm Water and Glycerine. They are soothing and cooling to the intestinal canal. Also give the following prescription: Pulv. Nux Vomica, four ounces; Carbonate of Ammonia, four ounces; Asafoetida, four ounces. Make into six powders; place one powder in gelatin capsule and give with capsule gun every two hours until relieved. The former prescription removes the cause as it is a physic. The

latter contains medicines blended so as to counteract the spasmodic contractions of the bowels. It is also a heart stimulant, just what is needed in colic to keep up the animal's vitality. Beware of colic remedies that are given in drop doses. They contain drugs to relieve the pain only and do not remove the cause. When their effects are worn off, the disease has progressed; the animal's heart action has been weakened and chances are that the animal will die. If drenching is resorted to, it must be done with great precaution. Remember a horse cannot breathe through its mouth.

SIDE BONES.

Cause.—The chief causes of Side Bones are: Deprivation of frog pressure, injuries, high heeled shoes, the use of which is almost entirely confined to draft horses. A high heeled shoe prevents the frog from resting on the ground which is its natural support.

Symptoms.—Enlargement just above the hoof, usually affecting the front feet, or may affect only one side of one of the feet. The pain which produces the lameness is due to pressure on the soft tissues between the newly formed side bone and the hoof. Sometimes the enlargement has a tendency to spread the hoof. In such a case the lameness is not so severe.

Treatment.—Clip the hair from over the Side Bone and rasp the foot below the enlargement, so that the hoof will be flexible on pressure from the fingers. Then apply the following to both the enlargement and the rasped surface of the hoof: Red Iodide of Mercury, two drams; Pulv. Cantharides, four drams. Mix well in two ounces of Lard and apply every forty-eight hours until three applications have been applied.

If you must work the animal, put it to some easy work where it has soft ground to walk upon.

STAGGERS.

(Forage Poisoning—Inflammation of the Brain)

(Cerebral Meningitis)

Cause.—Certain plants or stagnant water are most commonly instrumental in producing staggers; frequently seen in the early autumn months when the grass in the pastures becomes dry and certain forage remains green which contains toxic principles. These plants are ravenously eaten by horses on account of being green and tender. This is one of the common causes of the disease, although moldy, indigestible or highly nitrogenous foods are frequently productive of staggers. This form of staggers is not contagious, although what produces staggers in one horse will also produce it in another. In this way several horses may become affected with staggers at the same time. Inflammation of the brain may occur as a complication of some infectious or digestive disease. Other causes are blows on the head, tumors in or on the brain, which naturally cause the animal to stagger, as the brain controls the horse's power of locomotion.

Symptoms.—These vary to a certain extent, but a careful observer will detect some trouble connected with the nervous system, as the animal walking unsteadily, stepping high and keeping the legs spread apart, bracing itself to keep from falling. There is also great depression, dullness and sleepiness with little or no inclination to move about. The head may be placed against a wall or fence and the legs kept moving as if the horse were trying to walk. As the disease progresses and no attempts are made to relieve it, they will become fractious, nervous, easily excited, pawing and eventually fall, keeping the feet moving as if walking, throwing their heads about in a delirious manner and eventually death follows. The horse as a rule eats and drinks ravenously

when the first signs of staggers are noticed, but in its latter stages the tongue and gullet become paralyzed and although the animal attempts to eat and drink he cannot swallow. The pulse varies. It is strong, but subnormal when the first symptoms of staggers are noticed, that is to say, it is as slow as twenty to twenty-five beats per minute. As the disease progresses, however, it becomes weaker and faster. Constipation frequently accompanies this disease, also paleness tinged with yellow about the mucous membranes of the mouth and eyes. In many instances I believe that the poisonous forage eaten by horses depresses the heart action to such an extent that it results in the brain not receiving the proper blood supply, causing dizziness or staggers.

Treatment.—Place the animal in a clean, dark stall, keeping the surroundings as quiet as possible. In its first stages it is easily treated, but as the horse becomes easily excited and his swallowing becomes difficult, treatment becomes more difficult. When the first signs are noticed, administer a physic as: Aloin, two or three drams; Ginger, two or three drams, according to the size of the animal. Place in gelatin capsule and give with capsule gun. This physic removes the irritant from the intestines and prevents its absorption into the blood. Also administer the following: Bromide of Potassium, twelve ounces; Nitrate of Potash, four ounces; Iodide of Potash, three ounces. Make into twenty-four capsules and give one capsule every four hours.

My method of administering medicine to animals places me in a position to treat them and compel them to take the medicine even though paralysis may exist. When animals will eat, feed food that is easily digested, as hot wheat bran mashes, steamed rolled oats and vegetables and give small quantities, but not often, of clean fresh water. It is necessary to give stimulants and tonics as soon as they are on the road to recovery, as Pulv. Nux Vomica, four ounces; Pulv, Gentian Root, four ounces;

Sulphate of Iron, two ounces. Make into sixteen capsules and give one capsule three times daily.

STIFLE JOINT LAMENESS.

(*Dislocation of the Patella*)

Although dislocations are infrequent, this is the most common form which occurs in the horse.

CAUSE.—Young loose jointed horses are predisposed to dislocation of the stifle on account of the comparative want of strength of their ligaments. They are much more liable to this accident than older horses, especially if they are in poor health or in rough hilly pastures; the nature of which would naturally make them susceptible to this injury, which, however, may take place as a result of accident at any age. Young horses that suffer, off and on from dislocation, often lose their liability with increasing strength and age. This dislocation may be partial or complete. In the former instance and the most common is where the patella, or the little stifle bone that glides in the groove composed of the lower hip and upper thigh bones, has become partially dislocated or removed from its natural position.

SYMPTOMS.—When the dislocation is complete the affected limb is drawn forward, while the foot from the pastern down is drawn backward, and the animal may throw weight on it when made to move, which is accomplished with great difficulty. When the dislocation is partial, the symptoms are about the same as mentioned, only the limb is less rigid. If the horse is moved, the stifle makes a clicking sound. In this form both limbs may be affected.

TREATMENT.—In partial dislocation, the stifle bone may be replaced by drawing the leg forward, and with the hand pressing in on the stifle. In complete disloca-

tion, tie a rope around the pastern of the affected leg, then draw the rope through a collar placed around the horse's neck and draw forward as far as possible and tie. Then press with both hands inward. After the stifle is placed back into position use the following liniment: Aqua Ammonia Fort., four ounces; Oil of Turpentine, four ounces; Raw Linseed Oil, four ounces. Mix and apply well over the stifle joint once or twice a day for two or three days. Feed nourishing food and put the animal to slow, easy work or turn out to good pasture.

In chronic cases of Stifle Joint Lameness, treatment is of no value, therefore, care for the animal as soon as the catch in the walk or lameness appears.

STRING-HALT.

Cause.—Several theories have been put forth as to the cause of String-Halt which is generally supposed to be a nervous disease; a condition opposite to paralysis. The exact cause of this disease is hard to determine, but it is likely to occur in highly nervous horses. It sometimes follows an injury which may have irritated the nerves in some way. I believe that castration causes it in many instances, due to the severe struggle when being thrown, or pulling down severely on the spermatic cord when removing the testicle.

Symptoms.—Spasmodic contraction of one or both limbs. This sign varies, as sometimes it is very violent, while in others it may be so slight that it is hard to detect when stepping the horse forward, but on backing or turning the horse around the signs are easily noticed. All symptoms are better marked in the winter than in the summer, as some show it in the winter that do not show it in the summer at all.

Treatment.—The feeding of laxative foods that are easily digested relieves String-Halt in many instances.

SORE THROAT.

(*Pharyngitis—Laryngitis*)

CAUSE.—Exposure to cold weather or rain when the animal is not accustomed to it; drenching with irritating medicines or inhaling irritating smoke or gases.

SYMPTOMS.—At first the animal generally chills, the legs and ears are cold, but eventually they become very warm as the temperature increases, coughing, grinding of the teeth, saliva oozing from the mouth; the animal will hold its head in a stiff straight position, moving it as little as possible. There will be great difficulty in masticating and swallowing, as the food will come from the mouth in the form of wads, and as this soreness of the throat progresses food will also come from the nostrils. This is a bad sign, as extensive inflammation is no doubt present. Water, also, runs through the nostrils freely when the animal attempts to drink, due to the swollen condition of the throat. The animal forces the water back into the mouth, but is unable to swallow and hence the water gushes out through the nostrils. The animal evinces great pain when pressure is applied from the outside and he breathes with great difficulty. Although the pulse is not much affected at this stage, the temperature is elevated from one to two degrees above normal. The urine becomes scanty and highly colored, the eyes congested and discharging. Eventually the throat becomes greatly swollen and abscesses may form and discharge. As a rule constipation is associated with this disease.

TREATMENT.—Mild attacks of sore throat are easily treated, but when serious cases develop, treatment is unsuccessful. Place the animal in a clean, comfortable stall; permit as much fresh air as possible, but avoid all drafts. If the weather is chilly, blanket the animal, hand rub the legs and bandage with woolen cloths or bandages. Administer a mixture made from Chlorate of Potash, three

ounces; Nitrate of Potash, three ounces; Tannic Acid, one-half ounce; Molasses, one-half pint; Pine Tar, one-half pint. Mix well and place about one tablespoonful on the tongue every two hours in severe cases; in mild attacks, give less frequently. When they will eat, feed food that is easily digested, as hot wheat bran mashes and steamed rolled oats containing two or three ounces of pure ground flaxseed. It is always necessary to apply strong liniments to the throat, as they relieve inflammation and stimulate the formation of an abscess. The following liniment will be found very beneficial: Aqua Ammonia Fort., four ounces; Oil of Turpentine, four ounces; Sweet Oil, six ounces; shake well and apply two or three times daily. If the swelling is extreme between the jaws, so as to interfere with the animal's breathing, it is well to lance the abscess if a soft spot can be found. Just cut through the skin with a knife; then use a clean blunt instrument to locate the pus cavity. Otherwise, severe hemorrhage may be produced.

SURFEIT.

(*Nettle-Rash—Urtecaria*)

Cause.—The usual cause of Surfeit is supposed to be due to a character of food consumed which upsets the animal's digestive organs, the skin being continuous with the mucous membranes lining the intestinal canal. A disturbance of one structure is readily communicated to the other. Apparently, owing to the extremely dry nature of the forage during the greater part of the year, horses in the United States frequently suffer from Surfeit.

Symptoms.—Surfeit is a term applied to an eruption of small irregular humps or boils which are more or less painful to the touch and which break out suddenly as a rule on the horse's body and neck, and in rare cases on the legs. A favorite seat of Surfeit is the parts covered with the harness or saddle and along the neck and with-

ers. Surfeit is very troublesome and annoys both the horse and driver, especially when the horse perspires, as he will rub violently when coming in contact with any object.

TREATMENT.—Give two to four ounces of Epsom Salts in hot wheat bran mashes every morning. Feed as much sloppy food as possible, vegetables, etc. Avoid feeding dry woody hay, as it irritates the intestines and aggravates the disease.

SWEENEY.

(*Atrophy*)

CAUSE.—An ill fitting collar, one tug longer than the other, striking an object when pulling, like a stone or a corner of a building, slipping, kicks, or the animal may have a splint, sprain, ringbone, sidebone, coffin-joint lameness, curb, corns, stifle lameness, in fact anything that tends to make an animal favor the use of certain muscles. It is not a disease, just a lack in the development of the muscles, which waste away or shrink when not used as nature provided. For instance, perhaps you have had or have seen persons that had a fractured leg or arm the muscles of which through lack of use had wasted away (Atrophy), until they were used normally for sometime, when the muscles again came back to their normal size.

SYMPTOMS.—First locate the cause. The animal may be very lame although I have seen Sweeneys where lameness was very hard to detect, being those which were usually due to ill fitting collars. Remember you can have a Sweeney of the hip as well as the shoulder, and keep in mind the above mentioned cases.

TREATMENT.—When you have an animal affected with Sweeney, find the true cause and remove it if possible. Unless the Sweeney is a chronic one, it is successfully treated with Aqua Ammonia Fort., four

ounces; Turpentine, four ounces; Sweet Oil, four ounces. Mix and apply well over wasted muscles once a day. If the application is too irritating, as some horses have thinner skins than others, it is advisable to add more Sweet Oil than above mentioned.

TAPEWORM.

(*Taenia*)

These worms have been found in the horse, but so rarely that they need not be considered.

THOROUGHPIN.

Cause.—Generally due to some irritation of the hock joint such as severe sprains from animal jumping, slipping, kick or falling through a culvert or bridge or it is frequently hereditary; so be very careful in choosing a sire when breeding.

Symptoms.—Sometimes there is lameness when the Thoroughpin is first noticed, but it will gradually disappear as soon as the inflammation ceases. There will be a puffy, soft enlargement which occurs at the upper and back part of the hock, beneath the great tendons. Generally both sides are enlarged and puffy, but occasionally it happens that one side only is involved. Thoroughpin is also a forerunner of Bog Spavin, as they generally are connected; as you are aware the hock contains joint oil as all other joints do, retained in place by a thin, white fibrous membrane. Irritation of the hock joint tends to develop an extra large quantity of joint oil, and the hock is less protected by tendons where a Thoroughpin or Bog Spavin occurs—hence those puffy swellings are filled with joint oil and are connected. If you press on one side of a Thoroughpin, you will see the other side bulge out. If you press on a Bog Spavin and there is a Thoroughpin present, you will see it bulge on either side of the Thoroughpin—or vice versa.

TREATMENT.—If on an old horse and the Thoroughpin is of long standing, treatment is unsatisfactory, but on the other hand, if the animal is young it can be successfully treated with Tincture of Iodine, one ounce; Gum Camphor, two ounces; Gasolene, one pint. Mix well and rub in with nail or tooth brush twice a week. Keep the animal quiet as possible, as the results will be accomplished much sooner. Never attempt to open or lance a puffy swelling about a joint, as it contains joint oil. The result would be an open joint.

THRUSH.

CAUSE.—The two main causes of Thrush are lack of pressure on the frog and the decomposing effect of filth and fermentation of organic matter which accumulates in the cleft of the frog.

SYMPTOMS.—The animal in some cases is lame; there will be a swelling accompanied by a very fetid discharge; in some cases the frog has practically rotted away; there will be more or less inflammation in the foot. The legs may even swell. Thrush is more frequently found in the hind feet because of the manure and filth with which they must come in contact.

TREATMENT.—Cut away all loose pieces of horn from over the frog and apply a Flaxseed meal poultice and leave it on for twenty-four hours, after which wash well with Soap and warm water. Then apply Calomel to the groove in the frog. Keep the foot clean. Do not allow the animal to stand in filth.

WIND COLIC.

(*Flatulent Colic*)

CAUSE.—This dangerous form of Colic is a distension of the bowels with gas, resulting generally from the decomposition of undigested food in the bowels. It sometimes follows Spasmodic Colic, in which there is first spasms due to the irritations set up by the presence of

undigested matter, and subsequently this food decomposes and forms gas. I may conclude that Flatulent or Wind Colic is usually caused by errors in feeding and watering horses. Perhaps the animal has been given large quantities of rank grass, watery roots, which on account of its moist nature is quickly swallowed without being properly masticated.

Symptoms.—The signs resemble those of Spasmodic Colic, except that they are less violent. In most cases there is general accumulation of gas, the abdomen distended to a considerable size before the animal shows signs of uneasiness. In cases where the animal swells on the right side, it is the large intestines filled with gas. In other cases where both sides are equally swollen, the stomach and small intestines contain gas. The horse's back will have an arched appearance, passing gas from the anus frequently, and the horse will make attempts to vomit. In some cases actual vomiting takes place. This is a bad sign, as rupture of the stomach usually occurs at this stage.

Treatment.—Give Aloin, two drams; Ginger, two drams, in gelatin capsule and give with capsule gun. However, this is a physic and should not be given to mares heavily in foal. Also apply to the abdominal cavity liniment consisting of Aqua Ammonia Fort., four ounces; Oil of Turpentine, four ounces; Sweet Oil, four ounces. Mix and rub in well over the abdomen.

To mares heavy with foal, apply the above liniment and give rectal injections of Glycerine and warm water frequently.

The following remedy should be administered to all cases of Colic, including mares heavy with foal: Aromatic Spirits of Ammonia, six ounces; Turpentine, six ounces. Mix well together and place one ounce in gelatin capsule and give with capsule gun every hour. Puncturing the intestines is advisable in some cases to relieve them of gas. This requires a special instrument for the purpose and no one should attempt to perform the opera-

tion unless they know the anatomy of the part, as the arteries of the intestines may be penetrated, and produce internal hemorrhage or infection of the intestines, or abscesses may follow.

WIND GALLS.

CAUSE.—By concussions from fast work on hard roads and from sprains from slipping.

SYMPTOMS.—When concussions alone are responsible, the suspensory ligament and the back tendons will at first be in a normal condition, and the swelling will probably be confined to both the inside and outside of the leg and may be felt in the form of a puffy swelling on each side of the fetlock by placing the fore finger and the thumb on the joint. In more serious cases resulting from sprains, the vacant space between the back tendons and the suspensory ligament may also become filled with fluids. In other words, a Wind Gall has formed. In some cases the animal may be lame.

TREATMENT.—When there is heat present apply cold, wet packs until the heat disappears. Then apply Tincture of Iodine, one ounce; Gum Camphor, two ounces; to one pint of Gasolene. Apply every three days with nail or tooth brush. Shake contents of the bottle well each time before applying.

I may add that this is a very difficult blemish to treat and is not always successful, so do not be discouraged if the enlargements do not disappear, but the above prescription has proven the most successful of any treatment I have personally used in my private practice.

WOUNDS.

Wounds caused by external injuries have a general resemblance, and whether clean-cut, punctured, lacerated, poisonous, gunshot, etc., require practically the same treatment.

Treatment.—Wash with a Carbolic solution, one tablespoonful to one pint of distilled water.

Sewing of Wounds.—I cannot say that I am in favor of sewing wounds unless they are gaping or wide open.

After the wound is washed, dust with Iodoform, Boracic Acid and Tannic Acid, each one ounce. Powder finely and place in a sifter top can and apply twice daily. Cord or heavy thread may be used for sewing the wound after being saturated in a Carbolic Acid solution, using a large needle. If the animal is vicious, place a twitch on his nose or it may be necessary to throw him.

INDEX

Abortion 10
Abscess 10
Acute Cough 29
Anemia 11
Aphthae 13
Ascaris Megalcephala 71
Atrophy 83
Azoturia 13
Barrenness 15
Bleeding 16
Blood Poisoning 16
Bog Spavin 17
Bone Spavin 18
Bots 19
Brain Inflammation 77
Bronchitis 20
Capped Hock 22
Capped Knee 22
Caries Teeth 35
Castration 23
Catarrh, Chronic 57
Catarrh, Epizootic 49
Catarrh, Nasal 29
Cerebral Meningitis 77
Choking 25
Chronic Catarrh..... 57
Chronic Cough 29
Clinical Thermometer 5
Coffin Joint Lameness..... 26
Cold 29
Colic, Flatulent 85
Colic, Spasmodic 75
Colic, Wind 85
Colt Constipation 30
Colt Diarrhoea ..... .31
Conjunctivitis 42
Constipation 27
Constipation, Colt 30
Corns 27
Cough, Acute 29
Cough, Chronic 29
Cracked Heels 32
Curb 37
Dentistry 32
Diarrhoea 38
Diarrhoea in Colt..... 31
Diseases of the Eye..... 42
Dislocation of the Patella... 79
Distemper 39
Dropsy, Belly 40
Dropsy, Chest 40
Dropsy, Legs 40
Dropsy, Sheath 40
Dropsy, Udder 40
Eczema 41
Emphysema of the Lungs... 48
Epizootic Catarrh 49
Eye Diseases 42
Failure to Breed..... 15
Farcy 47
Fever, Petechial 67
Filariae 44
Fistula of the Foot..... 68
Fistulous Withers 43
Forage Poisoning 77
Founder 44
Flatulent Colic 85
Galls 46
Gastrophilis 19
Glanders 47
Grease Heels 46
Haemopis 50
Heaves 48
Heels, Cracked 32
Hemorrhage 16
Hernia, Inguinal 72
Hernia, Umbilical 61
Hock, Capped 22
How to Examine Teeth..... 33
Infection of the Navel String 58
Inguinal Hernia 72
Inflammation of the Brain... 77
Inflammation of the Eye.... 42
Influenzia 49
Irregular Teeth 33
Knee, Capped 22
Laminitis 44
Lampas 50
Laryngitis 81
Leeches 50
Lockjaw 51
Lung Fever 53
Lymphangitis 55
Mange 54
Maw Worm 65
Meningitis 77
Worm, Pin 65
Mud Fever 56
Nasal Catarrh 29
Nasal Gleet 57
Navicular Disease 26
Navel Rupture 61
Navel String Infection..... 58
Nettle-rash 82

Normal Pulse Throbs..... 9
Normal Temperature 6
Open Joint 62
Oryuris Curvilis 65
Palesade Worm 63
Patella Dislocation 79
Petechial Fever 67
Pharyngitis 81
Pin Worm 65
Pink-eye 49
Pleurisy 64
Pneumonia 53
Poisoning, Forage 77
Poll Evid 66
Pulse 7
Purpura Haemorrhagica 67
Pyemia 16
Quittor 68
Red Worm 69
Rheumatism 70
Ring Bone 71
Round Worm 71
Rupture, Scrotal 72
Scabies 54
Scrotal Rupture 72
Septicaemia 16
Shoe Boil 73
Side Bones 76
Spasmodic Colic 75
Spavin, Bog 17
Spavin, Bone 18
Splints 73
Sore Throat 81
Staggers 77
Stifle Joint Lameness..... 79
String-halt 80
Strongulus Armatus 63
Strongylus Tetracanthus ... 69
Supernumerary Teeth 36
Surfeit 82
Sweeney 83
Taenia 84
Tapeworm 84
Teeth, Irregular 33
Teeth, Supernumerary 36
Teeth, Ulcerated 35
Teeth, Wolf 36
Temperature During Health 6
Tetanus 51
Thermometer, Clinical 5
Thoroughpin 84
Thread Worm 44
Thrush 85
Ulcerated Teeth 35
Umbilical Hernia 61
Umbilical Pyemia 58
Urtecria 82
Use of the Clinical Thermometer 5
Wind Colic 85
Wind Galls 87
Wolf Teeth 36
Worm, Thread 44
Worm, Palesade 63
Worm, Maw 65
Worm, Red 69
Worm, Round 71
Wounds 87

3477-115
lot 17

MAR 7 8

LIBRARY OF CONGRESS
0 002 844 938 0